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ABSTRACT

An eight-year program of evaluation of students and graduates of the teacher education school at Tennessee Technological University is described. This evaluation project culminated in an intensive longitudinal study of graduates since 1973. The purpose of the study was to provide information for faculty and administrators of teacher education programs in order to help them make decisions pertinent to curriculum evaluation and long-range development plans. Data for this study were collected by mail surveys, interviews with teachers and their principals, and observations in the classrooms of the graduates. The data for the current year of the study and comparisons with earlier years is presented and interpreted in both tabular and narrative form. An analysis of the evaluation model is presented with discussion of its ectieffectiveness and further development. (JD)

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ED167487

STUDY OF THE TEACHER PREPARATION PROGRAMS OF TENNESSEE TECHNOLOGICAL UNIVERSITY

REPORT 78-2

TENNESSEE TECHNOLOGICAL UNIVERSITY TEACHER EVALUATION MODEL— YEAR V

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ABSTRACT

TENNESSEE TECHNOLOGICAL UNIVERSITY TEACHER EVALUATION MODEL-YEAR V

In 1973-74 Tennessee Technological University developed and implemented a model for systematic data gathering and for making evaluations of the programs in teacher education. The specific objective of the project has been the evaluation of and subsequent modification and improvement of the programs for the preparation of teachers. During the fifth year of the project (1977-78) five distinct groups of graduates participated as subjects in this longitudinal study: (1) prior to 1974, 16; (2) 1974, 14; (3) 1975, 18; (4) 1976, 16; and (5) 1977, 53. Detailed information was collected on each subject by the use of standardized instruments administered by specially trained graduate assistants or from University records. Basic instrumentation and procedures were pilot tested during the first year of the study and included: (1) University records, (2) principals' evaluations, (3) California F-Scale, (4) a measure of the satisfaction of the students of the graduates, (5) observation by trained observers. All data obtained in the study were classified, coded and key punched for analyses. Descriptive statistics, intercorrelations and comparisons were computed.

The major findings of the study for the first year subjects were similar to those reported in the past four years of the study. Comparisons between 1977 B.S. and M.A. level graduates indicated few significant differences. Detailed comparisons across years for all first year subjects in the project indicated few differences as did comparisons for subjects who had been in the study five, four, and three years. The differences that were noted were minor and in most cases no explanation can be offered for the changes. In summary, it appeared that the subjects who had been in the study for more than one year had changed little. Also, it appeared that those students who entered the study in 1977 were little different from their counterparts that were in the initial year of the project. Based on the results of the study, conclusions and recommendations have been advanced that are being used to modify and improve the teacher education program of the University.

The original plan advanced for the use of the model in 1973-74 called for a five year study. Based on the results of the five year effort, the evaluation model will be made a permanent part of the total teacher education program of the University and will be continued on an indefinite basis with modifications in the future based on research findings with regard to evaluation.

TABLE OF CONTENTS

	Page
List of Tables	iv
List of Figures	vii
Preface	viii
Chapter I-Introduction and Procedures	1
Introduction	1
Procedures	3
Summary	9
References	11
Chapter II-Presentation and Analyses of Data for 1977 Graduates	12
Career Base Line Data	12
General Information-Teacher Preparation Inventory	16
Principal Evaluation of Subjects	18
Personality Scale	21
Student Evaluation of Teaching	21
Interaction Analysis	23
Classroom Observation Record	24
Tuckman Teacher Feedback Form	25
Summary	27
References	27
Chapter III-Presentation and Analyses of 1977 Data for 1973 Through 1976 B.S. Subjects and Comparisons with Data Collected about 1977 Subjects	28
Comparison Study of Subjects who Have been in Study Five, Four and Three Years	28
Comparison Study of all First Year Subjects 1973, 1974, 1975, 1976 and 1977 and Selected Comparisons on Third and Fourth Year Subjects	34
Summary	42
Chapter IV-Summary, Conclusions, Recommendations and Future Plans	43
Summary	43
Conclusions	44
Recommendations	46
Plans for the Continuation of the Study During 1978-79	47
Long Range Plans	49
Appendix A	50

LIST OF TABLES

Table No.		Page
1	Number of subjects by year of graduation participating in each phase of study.	5
2	Sample for intensive followup 1977-78	5
3	Reasons and number of individuals dropping out of study from 1976-77 to 1977-78 (by year of graduation from University)	6
4	Number of subjects by date of graduation and county in which teaching in 1977-78	8
5	Correlation Matrix of selected variables-1977 B.S. graduates in first year of study.	13
6	Correlation Matrix of selected variables-1977 M.A. graduates in first year of study.	14
7	Teaching level of subjects.	15
8	American College Test Scores for B.S. graduates (N=24). . .	16
9	National Teacher Examinations scores for 1977 graduates . .	17
10	Percent ratings of various aspects of the undergraduate teacher preparation program at Tennessee Tech by 1977 B.S. graduates (N=30)	17
11	Percent of ratings of various aspects of the undergraduate teacher preparation program at Tennessee Tech by 1977 B.S. graduates (N=30).	18
12	Means and standard deviations of ratings of selected items by principals for all subjects in study (N=46).	19
13	Means and standard deviations of principals' ratings of 1977 graduates on four dimensions of teaching	21
14	Student evaluation of teaching-I, 1977 graduates.	22
15	Student evaluation of teaching-II (grades K-3) 1977 graduates.	22
16	Means and standard deviations for interaction analysis 1977 graduates.	23
17	Average percentage of time spent by 1977 graduates (N=47) by grade levels acting in each of the ten interaction categories.	24

18	Means and standard deviations for factors from the classroom observation record, 1977 graduates.	25
19	Means and standard deviations for four dimensions of the Tuckman Teacher Feedback form, 1977 graduates.	26
20	Means, standard deviations and intercorrelations for factor scores from classroom observation record and Tuckman Teacher Feedback form for total group (N=50)	26
21	Comparison of principals' ratings across five years (1973-1977) for B.S. subjects in study for total period.	29
22	Comparison of principals' ratings across four years (1974-1977) for B.S. subjects who entered study in 1974.	29
23	Comparison of Principals' ratings across three years (1975-1977) for B.S. subjects who entered study in 1975.	30
24	Comparison of SET-I scores across five years (1973-1977) for subjects in study for total period.	30
25	Comparison of SET-I scores across three years (1975-1977) for B.S. subjects who entered study in 1975.	31
26	Comparison of SET-I scores across four years (1974-1977) for B.S. subjects who entered study in 1974.	31
27	Comparison of ratios from interaction analysis across five years (1973-1977) for B.S. subjects in study for total period.	32
28	Comparison of ratios from interaction analysis across four years (1974-1977) for B.S. subjects who entered study in 1974.	32
29	Comparison of ratios from interaction analysis across three years (1975-1977) for B.S. subjects who entered study in 1975.	33
30	Comparison of COR factor scores across five years (1973-1977) for subjects in study for total period	33
31	Comparison of COR factor scores across four years (1974-1977) for B.S. subjects who entered study in 1974. . . .	34
32	Comparison of COR factor scores across three years (1975-1977) for B.S. subjects who entered study in 1975. . . .	34
33	Comparison of National Teacher Examinations scores for first year B.S. subjects 1973-1977 by year.	35

34 Comparison of American College Test scores for first year B.S. subjects 1973-1977 by year. 35

35 Comparison of quality point averages in various areas for first year B.S. subjects 1973-1977 by year. 36

36 Comparison of F-scale scores for first year B.S. subjects 1973-1977 by year. 36

37 Comparison of principals' ratings for first year B.S. subjects by year 1973-1977. 37

38 Comparison of principals' ratings for B.S. groups at time of being in study for second year (1973, 1974, 1975 and 1976 graduates in 1974, 1975, 1976 and 1977). 37

39 Comparison of principals' ratings for B.S. groups at time of being in study for third year (1973, 1974 and 1975 graduates in 1975, 1976 and 1977). 38

40 Comparison of SET-I scores for first year subjects across five years 1973-1977. 38

41 Comparison of SET-I scores for B.S. groups at time of being in study for second year (1973, 1974, 1975 and 1976 graduates in 1974, 1975, 1976 and 1977) 39

42 Comparison of SET-I scores for B.S. groups at time of being in study for third year (1973, 1974 and 1975 graduates in 1975, 1976 and 1977. 39

43 Comparison of ratios from interaction analysis for first year B.S. subjects 1973-1977. 40

44 Comparison of ratios from interaction analysis for B.S. groups at time of being in study for second year (1973, 1974, and 1975 graduates in 1974, 1975 and 1976). 40

45 Comparison of ratios from interaction analysis for B.S. groups at time of being in study for third year (1973, 1974, and 1975 graduates in 1975, 1976 and 1977). 41

46 Comparison of COR scores for first year B.S. subjects 1973-1977 by year. 41

47 Comparison of COR scores for B.S. groups at time of being in study for second year (1973, 1974, 1975 and 1976 graduates in 1974, 1975, 1976 and 1977). 42

48 Comparison of COR scores for B.S. groups at time of being in study for third year (1973, 1974 and 1975 graduates in 1975, 1976 and 1977). 42

LIST OF FIGURES

Figure No.		Page
1	PERT Chart of major activities for 1977-78.	4
2	Number of Participants by County in 1977-78 phase of study (N=117.	7
3	Summary of sources of data, instrumentation and use of data	10
4	PERT Chart of major activities for 1978-79.	48

PREFACE

For the past eight years, attention has been given to the evaluation of the graduates of the teacher preparation programs of Tennessee Technological University. Followup studies of all graduates have been conducted on a regular basis and special studies have been performed to provide input for the overall operation of the programs of the University. In order to improve the system of evaluation at the institution, an intensive longitudinal study was initiated in the fall of 1973 of the graduates. This study was continued through 1977-78 utilizing a modified model that was previously developed for evaluating graduates of teacher education programs. Reports of the results of the application of the model for the period 1973-74 through 1976-77 were contained in, respectively, Reports 74-4, 75-4, 76-1 and 77-2 available from the Office of the Associate Dean of the College of Education.

The purpose of this present report was to present the findings of the fifth year of the application of the Tennessee Technological University Teacher Evaluation Model. In turn, this report will be utilized for providing input into the total system of teacher education at the University. This report is by no means complete; however, it serves to inform the reader of the basic procedures used and the preliminary findings of the fifth year of the study. In order to conserve paper, only essential information was provided.

The longitudinal study has received considerable attention from individuals at other institutions in not only the United States but several foreign countries. Therefore, this report contains a summary of the results of the first four years of the operation of the model and a listing of other reports that were related to the study. Copies of the instrumentation employed with the model can be obtained from the author. This report should provide the necessary information for an institution to replicate the study.

The author of this report is indebted to the efforts of several individuals that have been extensively involved in working with the project during the past year. These individuals include: Barbara Orr, Graduate Assistant; Suzan Burnett, Graduate Assistant; Margaret Elrod, Graduate Assistant; Linda Carroll, Secretary; Sharon Heard, Secretary; Glenda Qualls, Analyst; and Dr. John D. Thomas, Associate Professor of Educational Psychology and Counselor Education. In addition, thanks are extended to all principals, teachers, superintendents, and other school personnel that provided technical assistance, data, and allowed the project staff to work with them in various ways.

Jerry B. Ayers
Associate Dean
College of Education
August, 1978

CHAPTER I

INTRODUCTION AND PROCEDURES

Beginning in 1970, a series of separate studies was begun related to the evaluation of students enrolled in and graduates of the teacher education programs of Tennessee Technological University. The research has been systematic and designed to meet standards established by the National Council for Accreditation of Teacher Education, as well as to answer such questions as course effectiveness, the proper sequence of courses, factors related to achievement, success of the graduates after entering the teaching profession, better methods of instruction, and the degree of achievement of the stated competencies of the teacher education program. It should be noted that there are companion studies to evaluate the programs designed to prepare school service personnel at the M.A. and Ed.S. levels (see Appendix).

The works of Sandefur and Adams (1,2,3) led to the development of a model (Tennessee Technological University Teacher Evaluation Model) for the evaluation of graduates of the programs of the University designed to prepare teachers at the bachelor's and master's levels (4). During 1973-74 the Evaluation Model was implemented and continued during 1974-75, 1975-76 and 1976-77 with funds available from the budget of the College of Education of the University. The results of the application of the model were summarized in Reports 74-4, 74-5, 76-1 and 77-2 (5,6,7,8).

The fifth year of the application of the Evaluation Model was initiated in the fall of 1977. The remainder of this chapter describes the purposes of the fifth year of the operation of the model and limitations of and the procedures used in conducting the major phases of the study. Chapters II and III contain presentations and interpretations of the data for the current year of the study and comparisons with earlier years. Chapter IV contains a summary, conclusions, and recommendations and tentative plans for continuation of the study during 1978-79. The appendix contains a listing of all evaluative studies that have been conducted as a part of the efforts of the Office of the Associate Dean.

Purposes

The purposes of the study reported in this document included the following:

1. To provide information for faculty and administrators concerned with teacher education programs at Tennessee Technological University in making decisions pertinent to curriculum evaluation and development.

2. To aid in the process of making long-range plans for improving the total program of the University with particular emphasis on the teacher education programs.

3. To continue the development and refinement of the Tennessee Technological University Teacher Evaluation Model.

Specific objectives to be accomplished as a part of this study were as follows:

1. To continue studying in a longitudinal manner those subjects who had previously participated in the application of the Model (1973-74 through 1976-77).

2. To provide a descriptive profile of a sample of 1977 graduates of the teacher education programs of Tennessee Technological University.

3. To determine relationships among selected variables that were measured as a part of the total study.

4. To provide comparisons between the graduates of the teacher education programs of Tennessee Technological University with those who might be considered as effective teachers as defined in the original literature of teacher education.

5. To provide effective dissemination of relevant research data to the faculty and administration of the University associated with the teacher education programs.

6. To provide information and suggestions for curriculum evaluation and development based on empirical research data.

7. To continue to evaluate the procedures employed in the study and to make long-range plans for modifications and refinement of the basic Evaluation Model.

Limitations

The general limitations for this study were primarily concerned with sampling techniques:

1. Subjects for the study were individuals who were 1977 graduates of a bachelor's or master's level program at Tennessee Technological University designed to prepare them as teachers or they were individuals who participated in the study during the past four years.

2. Subjects were teaching in the State of Tennessee within a 100-mile radius of Cookeville, Tennessee. (Approximately 70 percent of all graduates of the teacher education programs of the University, that were teaching, resided within the specified geographical limits of the study.)

3. The subjects volunteered to participate in the study.

4. The subjects who participated in the study received the permission of their principals and superintendents.

5. The sample sizes of the 1973, 1974, 1975 and 1976 graduates were reduced each year by about one-third due to attrition from the teaching profession or moving out of the geographical limits of the study. Therefore, the findings of the study may be limited in their applicability to the population of graduates from the University and also other institutions.

Limitations 1 through 4 above were imposed in order to make the study more feasible regarding the followup of the graduates. Voluntary participation was deemed necessary due to the extensive collection of data and to the cooperation required from the subjects for classroom observations and completion of forms. The limitation of a 100-mile radius of Cookeville, Tennessee, was necessary because of the limited travel funds available and the time available for the research assistants to visit in the classrooms of the participating subjects.

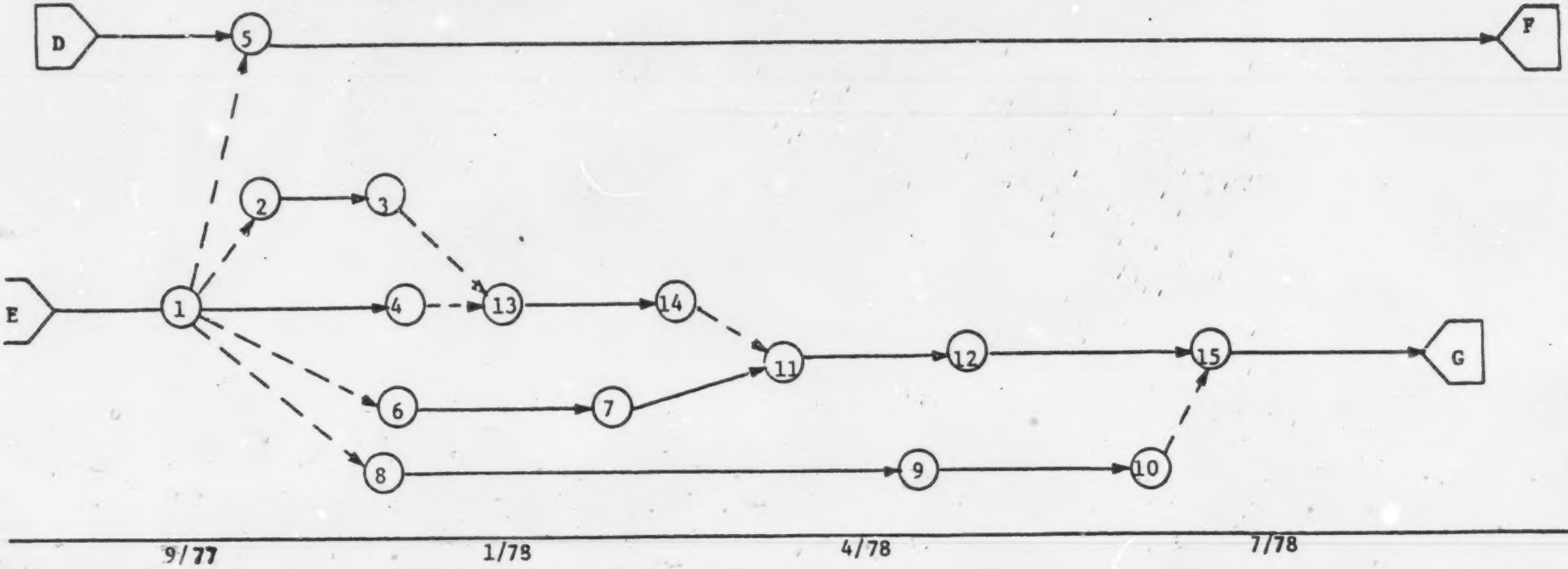
Procedure

The purpose of this section was to provide the reader with a brief description of the procedures employed in collecting data utilized in this study. This section was concerned specifically with selection of subjects, implementation of the study, training of staff, and methods of data collection and analyses. Figure 1 shows a PERT chart of the major activities of the project from September, 1977 through June, 1978. In order to conserve space the reader is referred to Reports 74-4, 75-4, 76-1 and 77-2 (5,6,7,8) for a more complete description of such topics as instrumentation and training of observers.

Selection of Subjects

Five groups of subjects participated in the 1977-78 phase of the project. The first group of individuals (1971, 1972, and 1973 graduates) was participating in the project for the fifth year, while the second group (1974 graduates) was participating for the third year. The third, fourth and fifth groups consisted of those individuals that received either the B.S. or M.A. in, respectively, 1975, 1976 or 1977. Table 1 shows a summary of the number of individuals (by year of graduation) participating in each phase of the study, and Table 2 shows a summary of the grade level in which the subjects were teaching during 1977-78.

Table 3 shows a summary of the reasons and number of individuals failing to participate in the 1977-78 phase of the study. This table shows the number withdrawing from the study by original date of graduation from the University. Between 1976-77 and 1977-78, 21 individuals withdrew; 17 individuals (54.8 percent) felt the objectives of the project were not compatable with personal objectives, 1 individual (3.2 percent) moved into a non-teaching position in the schools, 8 individuals (25.8 percent) left the teaching profession and 5 individuals (16.1 percent) gave no reason or could not be located. The overall attrition between the two years was 31 individuals or 32.3 percent. This figure is comparable with the level of attrition between the first and second, second and third and third and fourth years of the study (6,7,8).



Summary of Activities

1-4 Finalize Plans for Visiting Subjects in 1973-76 Phases of Study
2-3 Training of Observers
5-- Continuing Contact With Other Projects and Survey of the Literature
6-7 Survey All 1977 Graduates
8-9 Conduct Other Related Studies
9-10 Prepare Reports of Related Studies
7-11 Select Sample of 1977 Graduates for Intensive Study as Part of Followup
11-12 Make School Visits on 1977 Graduates
13-14 Make School Visits on 1973-76 Graduates
12-15 Complete Reports and Submit
15--- Begin Making Plans for 1978-79 Phase of Study

Figure 4. PERT Chart of Major Activities for 1977-78.

Table 1

Number of Subjects by Year of Graduation Participating in Each Phase of Study

Phase of Study	1970	1971	1972	1973	1974	1975	1976	1977	Total
1973-74	0/6*	0/12	0/19	4/18	--	--	--	--	4/49
1974-75	**	0/8	0/14	4/10	16/33	--	--	--	20/65
1975-76	**	0/6	0/12	0/8	8/18	12/32	--	--	20/76
1976-77	**	0/5	0/12	0/6	6/15	5/20	5/21	--	16/79
1977-78	**	0/4	0/7	1/4	6/8	5/13	2/14	23/30	37/80

* No. M.A./No. B.S.
** Dropped from study by original design.

Table 2

Sample for Intensive Followup 1977-78**

Year	K	1-3		4-7		8-12**	SPED	Total
1971	0/0	0/0		0/1	0/1	0/2	0/0	0/4
1972	0/2	0/0		0/1	0/1	0/1	0/2	0/7
1973	1/0	0/3		0/0		0/1	0/0	1/4
1974	1/1	0/1	0/1	1/2	2/3	1/0	1/0	6/8
1975	2/3	0/3	0/1	2/2	0/2	1/2	0/0	5/13
1976	0/1	0/3	0/1	0/4	1/0	0/2	1/3	2/14
1977	3/0	4/5	0/1	6/5	0/4	6/6	4/9	23/30
Totals	7/7	4/15	0/4	9/15	3/11	8/14	6/14	37/80

* No. M.A./No. B.A.
** Teaching areas: 8-English, 4-Math, 4-Music, 2-Science and 1 each in Physical Education, Business and Vocational Agriculture.

Table 3

Reasons and Number of Individuals Dropping out of Study From 1976-77 to 1977-78 (By Year of Graduation from University)

Reason	1971	1972	1973	1974	1975	1976	Total
Felt Objectives of Project were not comparable with personal objectives	1	2	1	4	5	4	17
Moved into non-teaching position in schools	0	1	0	0	0	0	1
Left Teaching Profession	0	1	0	3	2	2	8
Other Reason	0	0	0	0	0	1	1
Unable to Locate (No response to questionnaires, phone calls or no forwarding address at Post Office)	0	0	0	1	0	3	4
Total	1	4	1	8	7	10	31

As a part of the routine followup activities of the Office of the Associate Dean, all 1977 graduates of the teacher education programs were contacted in the late fall of 1977 (304 B.S. graduates and 145 M.A. graduates). As a result of this initial survey (9), all graduates who were teaching within the defined geographical limits of the project were contacted by mail and/or telephone and asked to participate in this study. A total of 30 B. S. and 23 M.A. level graduates volunteered to participate (see Tables 1 and 2).

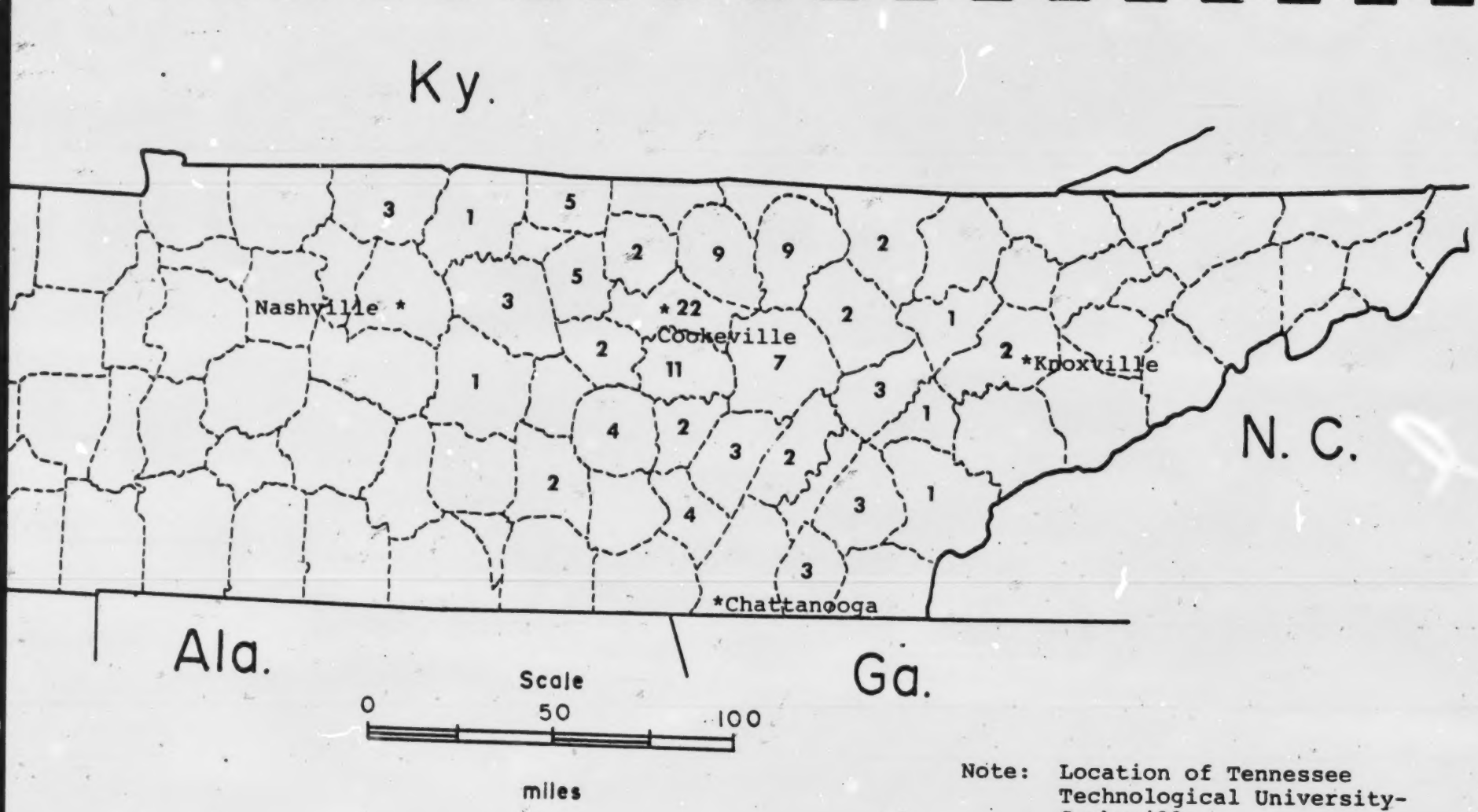
Figure 2 shows a map of selected portions of Tennessee. The numerals within each county indicate the number of individuals who participated in the study during the 1977-78 year. Table 4 shows a summary of the number of individuals by year of graduation participating from each county.

Instrumentation

Instrumentation for the 1977-78 study was identical to that used during the past several years of the project. The reader is referred to Report 77-2 (8) for more information with regard to instrumentation.

Training of Observers

The procedures for the training of observers were outlined in Reports 74-4 and 77-2 (4,8).



Note: Location of Tennessee Technological University-Cookeville.

Figure 2. Number of Participants By County in 1977-78 Phase of Study (N=117)

Table 4

Number of Subjects by Date of Graduation and County in Which Teaching in 1977-78

County	1971	1972	1973	1974	1975	1976	1977	Total
Anderson							1	1
Bledsoe	1			1			1	3
Bradley							3	3
Coffee				1		1		2
Cumberland			1	1			5	7
DeKalb		1			1			2
Fentress				1	4	2	2	9
Jackson				1	1		2	4
Loudon							1	1
Knox			1			1		2
Macon	1						4	5
McMinn			1				2	3
Monroe							1	1
Morgan							2	2
Overton		1		3			5	9
Putnam	1	1		4	3	4	9	22
Rhea	1				1			2
Roane					2		1	3
Robertson						2	1	3
Rutherford		1						1
Sequatchie				1		2	1	4
Scott			1				1	2
Smith		1			2	1	1	5
Sumner							1	1
Van Buren						1	1	2
Warren		2				2		4
White				1	4		6	11
Wilson			1				2	3
Totals	4	7	5	14	18	16	53	117

Collection of Data

Data for this study were collected by mail surveys, interviews and observations in the classrooms of graduates. Initially, all subjects were contacted by mail and dates were set for observational visits by the graduate research assistants (both previous subjects and new subjects in the study). These dates were verified with the appropriate administrative authorities in each school and school system. A letter explaining the project in detail was sent to all subjects, principals, and superintendents. The subjects, their principals and superintendents were invited to make comments and suggestions for conducting the study.

Each subject was visited on at least one occasion by the trained graduate assistant. The observer spent approximately a half day in each subject's classroom and completed from two to six 20 minute periods observing using a ten category system of interaction analysis. At the completion of all observations, the Classroom Observation Record and the Tuckman Teacher Feedback Form were completed.

The appropriate version of the Student Evaluation of Teaching (SET) was administered during the visit. The instrument was completed by at least one class of students. While the students were completing the SET, subjects who were participating in the project for the first year completed the California F-Scale.

During the course of the day the observer interviewed each subject with regard to their opinions and ideas about the teacher preparation program of the University. Also, the observers asked each principal to complete the Principals Questionnaire and also the Teacher Evaluation by Supervisor Form.

Pertinent data such as quality point average, National Teachers Examination scores, etc. were collected from the permanent records of all 1976 graduates.

Analysis of Data

Basic descriptive and inferential statistical methods were used to analyze the data. These techniques are described in more detail at the appropriate points in this report.

Summary

In summary this chapter contains a brief overview of the total operation of the 1977-78 phase of the longitudinal study of the graduates of the teacher education programs of Tennessee Technological University. Included in this chapter was a summary statement of the major purposes of the project, limitations of the study and the major procedures employed in conducting the study. Figure 3 shows a chart of the major sources of data instrumentation employed in the evaluation of the graduates. It will be noted that data was gathered from four major sources including self or personal, from supervisors and principals, students of the graduates, and by independent observers. Included in the chart is a listing of the major instruments used in gathering data from the four primary sources. The major purposes and procedures of the project have remained virtually unchanged over the past four years of the study. It is felt that the information available from this report and the companion reports completed in 1974, 1975, 1976 and 1977 will be useful to those individuals attempting to replicate this study. It should be pointed out that additional information and specifics related to methodology employed in this study are available from the Office of the Associate Dean, College of Education.

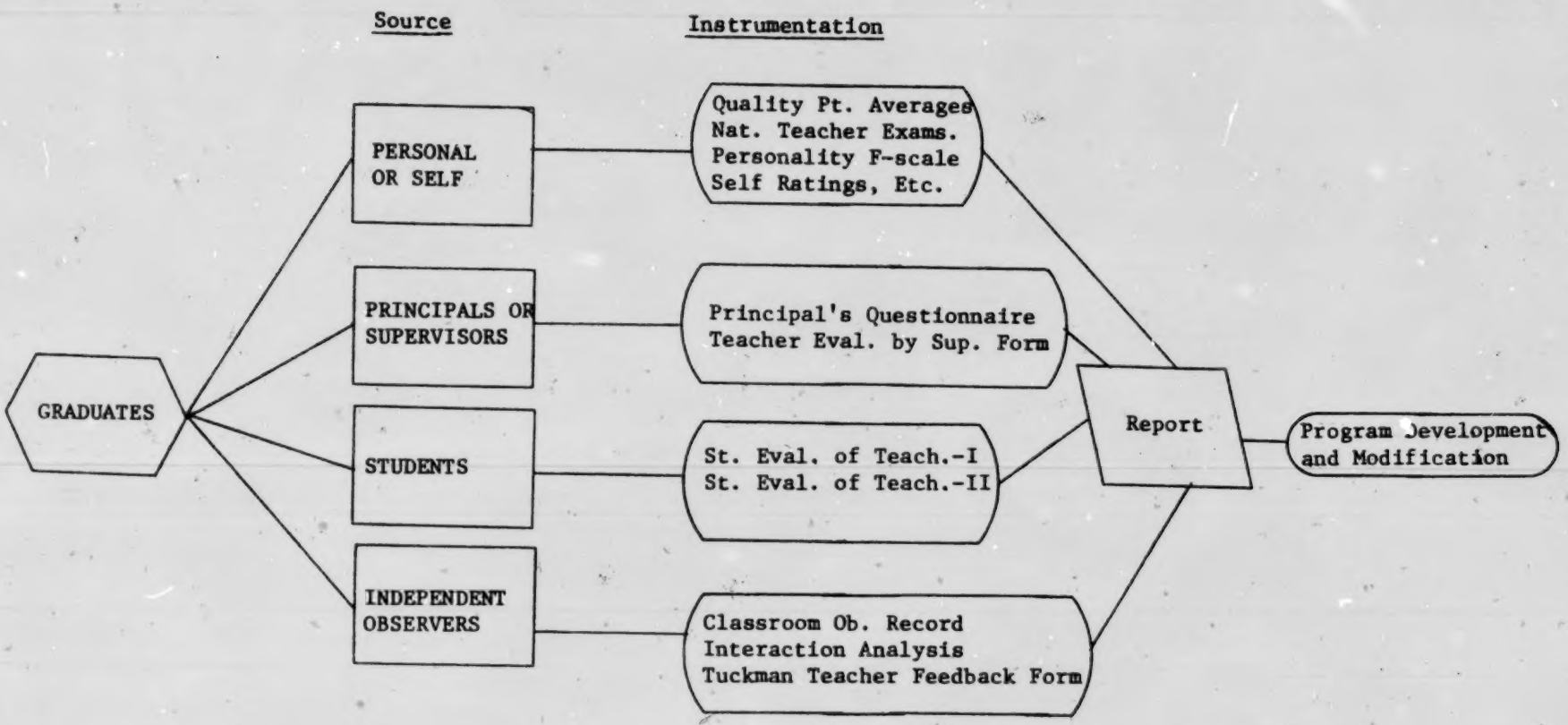


Figure 3. Summary of Sources of Data, Instrumentation and Use of Data.

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CHAPTER II

PRESENTATION AND ANALYSES OF DATA FOR 1977 GRADUATES

Chapter II contains a presentation and analyses of data for those individuals who received either the B.S. or M.A. in 1977 and were participating in the study for the first time. The sample consisted of 30 individuals who had received the B.S. and were in their first year of teaching and 23 individuals who had received the M.A. and were returning to the classroom as a teacher. The mean years of experience in the classroom for the M.A. level graduates was 5.1 years (SD=3.0). Means, standard deviations, frequency counts, correlations and appropriate statistical tests were presented in tabular form for the variables studied. Explanatory information was included to facilitate the reader's understanding and usage of the report.

The data were presented in ten parts with each corresponding to a major instrument used to gather information. Each section contained summary statistics as well as a discussion of the relevant variables that were correlated in the study. Tables 5 and 6 show intercorrelation matrics of selected variables for respectively the B.S. and M.A. graduates. Only variables significant at or beyond the .05 level were discussed in the remainder of this report.

An understanding of Chapter I of this report is essential for the effective utilization of the remainder of the report. Also, Reports 74-4, 75-4, 76-1 and 77-2 should be used as companion guides to obtain additional information that may be of interest to the reader. The attention of the reader is also called to the Appendix to this report. The Appendix contains a complete listing of all studies that have been conducted in the past eight years that may provide additional useful information about the evaluation studies that have been conducted by the College of Education. Selected reports contain copies of complete instrumentation used in the studies.

Career Base Line Data

This section contains a summary of preliminary career base line data for the 1977 subjects in the study. Included in this section is information taken from each subject's college transcript and other records available in the College of Education of the University. In general, it appeared that the subjects in this study may have achieved slightly above the mean for all graduates of the College of Education.

Table 7 shows a summary of the teaching level of the 30 B.S. and 23 M.A. individuals. It will be noted that about 25 percent were teaching in special education classrooms, 25 percent at the secondary level and the remainder in the lower grades.

TABLE 5

CORRELATION MATRIX OF SELECTED VARIABLES – 1977 B.S. GRADUATES IN FIRST YEAR OF STUDY*

	$\bar{X}$	SD	N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
National Teacher Examination																												
1. Teaching Area Exam	606	62	27	1000	354	883	422	404	459	-042	-184	-066	-094	-206	-218	-090	-366	-207	-350	-078	-071	101	013	-030	-239	246	238	028
2. Prof. Ed. Test	58	7.8	27		1000	658	303	403	635	-076	-098	041	-141	-493	338	026	055	142	-025	118	190	137	-591	-330	021	312	162	169
3. Composite	1189	101	27			1000	210	314	691	-073	-288	-197	-212	-189	003	080	-317	-123	-290	-026	075	155	-071	-105	-081	200	154	017
Quality Point Average																												
4. Major Field	3.39	0.40	30				1000	849	238	190	070	349	283	-378	-086	-409	158	-114	-326	023	122	142	-357	-390	-183	437	511	483
5. Overall	3.16	0.40	30					1000	465	126	-045	183	120	-332	114	-229	475	-141	-266	122	001	067	-323	-257	-064	341	372	318
American College Test																												
6. Composite	19.6	5.3	24						1000	009	-275	-339	-134	-382	286	209	153	108	-461	-028	205	236	-501	-359	061	-270	152	072
Principal Evaluation																												
7. I	4.2	0.7	27							1000	263	519	679	-098	446	446	195	413	-028	349	005	182	-045	-075	-273	155	173	297
8. II	4.4	0.6	27								1000	619	614	122	232	218	-038	454	270	-095	-237	-194	129	-079	-127	286	106	341
9. III	4.2	0.6	27									1000	719	-177	362	192	053	641	158	383	-138	159	195	-122	-429	354	266	476
10. IV	4.0	0.6	27										1000	-053	482	351	077	489	030	130	-020	017	149	168	-512	489	369	494
California F-Scale																												
11. F-Scale	100.9	23.2	27											1000	-353	-115	-092	-329	177	-398	-283	-186	538	231	166	-385	-309	-105
Student Evaluation of Teaching-I																												
12. I	333	43.5	18												1000	700	633	312	286	598	298	430	-170	012	009	376	218	177
13. II	325	34.3	18													1000	257	498	165	595	220	111	128	173	-286	441	215	-062
14. III	288	24.6	18														1000	-086	080	409	-082	230	-183	-135	384	109	264	181
15. IV	286	51.9	18															1000	-019	405	-041	-070	200	123	-449	301	-088	144
16. V	249	52.8	18																1000	357	493	330	155	-045	161	-120	-248	-124
17. VI	302	33.7	18																	1000	216	320	010	-024	-190	153	-047	-239
Interaction Analysis																												
18. I/d	1.41	1.51	30																		1000	341	-104	-178	167	158	260	244
19. I/D	3.06	6.46	30																			1000	-078	-305	094	068	264	365
20. ST/TT	0.78	1.07	30																				1000	451	-212	-243	-162	-127
21. Sil/Tot	0.32	0.28	30																					1000	-216	-335	-411	-478
22. Lec/Tot	0.27	0.21	30																						1000	-436	-293	-124
Classroom Observation Record																												
23. I	44.4	3.8	30																							1000	871	648
24. II	69.4	5.2	30																								1000	817
25. III	24.9	2.8	30																									1000

*Underline indicates a correlation significant at or beyond the .05 level. Decimal points have been omitted.

TABLE 6

CORRELATION MATRIX OF SELECTED VARIABLES 1977 M.A. GRADUATES IN FIRST YEAR OF STUDY*

	X̄	SD	N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
National Teacher Examination																									
1. Composite	1152	160	11	1000	116	189	134	258	-009	-123	-415	-323	212	-827	-386	-399	625	323	451	-406	-273	181	084	238	758
Quality Point Average																									
2. Overall	3.76	0.25	20		1000	121	462	419	590	-294	-009	-226	-251	-418	-234	-255	324	-154	235	143	298	-192	-128	-227	-006
Principal Evaluation																									
3. I	4.8	0.4	20			1000	676	411	069	-296	535	229	174	046	400	361	268	446	-120	015	-246	-228	-162	-114	-741
4. II	4.6	0.5	20				1000	608	564	-304	382	-037	066	-133	173	146	298	141	-034	145	019	172	209	163	-741
5. III	4.5	0.6	20					1000	717	-497	356	-044	-103	-479	110	017	215	-164	293	-306	135	184	153	212	-263
6. IV	4.6	0.6	20						1000	-270	214	039	-136	-269	-053	-049	221	-205	179	-081	327	243	185	136	-056
California F-Scale																									
7. F-Scale	104.1	25.4	19							1000	-295	-062	-078	030	-398	-244	073	249	012	149	068	118	104	116	329
Student Evaluation of Teaching-I																									
8. I	336	46.2	12								1000	810	696	353	768	880	207	722	-602	516	-347	090	094	092	-816
9. II	351	23.3	12									1000	688	557	704	864	037	676	-435	549	-451	-031	-059	-080	-847
10. III	302	56.8	12										1000	407	574	821	242	639	-777	386	-569	189	162	158	-823
11. IV	305	28.6	12											1000	725	687	-302	427	-108	570	-238	-114	-162	-178	-388
12. V	263	68.8	12												1000	917	-122	521	-189	567	-541	-056	-085	-038	-985
13. VI	311	38.0	12													1000	022	674	-498	577	-544	035	006	017	-928
Interaction Analysis																									
14. I/d	0.89	0.56	17														1000	529	-152	039	-005	-031	189	046	217
15. I/D	2.04	2.75	17															1000	-324	136	-543	-044	131	165	234
16. ST/TT	0.76	0.83	17																1000	108	372	013	-013	146	627
17. Sil/Tot	0.37	0.22	17																	1000	-075	-113	003	-098	221
18. Lec/Tot	0.36	0.23	17																		1000	-071	-036	-238	839
Classroom Observation Record																									
19. I	42.0	10.3	20																			1000	975	940	361
20. II	65.3	16.3	20																				1000	952	-008
21. III	23.4	6.2	20																					1000	069
22. Years Experience	5.1	3.0	15																						1000

*Underline indicates a correlation significant at or beyond the .05 level. Decimal points have been omitted.

Table 7

Teaching Level of Subjects

Level	B.S. (N=30)	M.A. (N=23)	Total (N=53)	Percent
Preschool (including kindergarten)	0	3	3	5.7
Grades 1-3	5	4	9	17.0
Non-graded lower grades	1	0	1	1.9
Grades 4-7	5	6	11	20.8
Non-graded middle school	4	0	4	7.5
Grades 8-12	6	6	12	22.6
Special Education	9	4	13	24.5

The mean quality point average in the major teaching field of the B.S. graduates was 3.39 (SD=0.40). This value approximated the mean major field quality point average of graduates who had participated in the first four years of the study. The mean overall undergraduate quality point average of the B.S. graduates was 3.16 (SD=0.40), which also approximated that for participants in the first four years of the study. The mean overall graduate quality point average for individuals receiving the M.A. was 3.76 (SD=0.25). The major field quality point average for the B.S. level graduates correlated significantly (positively) with principals ratings of appropriateness of assignments, (negatively) with students ratings of knowledge possessed by the teacher, (negatively) with the student talk/teacher talk ratio from the use of interaction analysis and (positively) with the three factors from the Classroom Observation Record. A similar correlation pattern was noted for the correlation of overall quality point average with the various variables under study. There were no significant correlations between overall quality point average and the various variables under study for the M.A. level graduates. These findings were somewhat in opposition to the results of the study conducted in 1976-77.

Twenty-four subjects had completed the American College Test prior to admission to the University. Mean scores for each of the four sub-tests and composite score were shown in Table 8. In general, the subjects had achieved scores above the mean for all students enrolled in teacher education programs and the University.

Mean scores and standard deviations achieved by the subjects on the National Teacher Examinations were shown in Table 9. The results indicated that the subjects had achieved at about the same level as individuals in the first four years of the study. Overall the subjects ranked at about the 40th

percentile on the Professional Education Test, about the 45th percentile on the Teaching Area Examination and the mean composite score was about the 50th percentile. An examination of the correlational pattern of scores from the NTE with selected variables (Tables 5 and 6) revealed few significant relationships.

Table 8

American College Test Scores for B.S. Graduates (N=24)

Subtest	Mean	SD
English	19.3	3.8
Mathematics	17.5	6.1
Social Science	19.8	5.6
Natural Science	20.4	3.9
Composite	19.6	5.3

General Information-Teacher Preparation Inventory

All B.S. subjects were asked to complete a rating sheet with regard to certain courses and other areas of emphasis related to their teacher education program. Data were obtained from all 30 subjects and are comparable with information from other studies of larger numbers of graduates (see Appendix for complete listing of reports). Table 10 shows the results of the survey conducted as a part of this study. This Table contains the percentage of subjects ratings of each area. In general, the lowest ratings were given to the areas of (1) ability to work with parents, (2) skill in maintaining discipline, and (3) skill in working with exceptional children (the bright, the dull, and the handicapped). It should be noted that these areas have been rated as weaknesses in other studies conducted by the University. Also, these appear frequently in studies that have been conducted at other institutions of higher education.

The subjects were asked to rate the value of certain core education courses on a scale of 5 to 1 (very satisfactory to very unsatisfactory). Table 11 shows the results of this phase of the study. The courses receiving the lowest ratings were General Psychology, Social Foundations of Education, Educational Psychology, and History and Philosophy of Education. In general the subjects perceived more value in the courses involving practical applications and less value in the theoretical courses. These findings have been in evidence in other studies (see Appendix).

Table 9

National Teacher Examinations Scores for 1977 Graduates

Test	B.S. (N=27)		M.A. (N=11)*	
	$\bar{X}$	SD	$\bar{X}$	SD
Teaching Area Examinations	605.9	61.7	589.1	80.1
Professional Education Test	57.8	7.8	57.1	12.9
Composite Scores	1188.6	101.4	1152.2	159.9

*Completed test as seniors at Tennessee Technological University

Table 10

Percent Ratings of Various Aspects of the Undergraduate Teacher Preparation Program at Tennessee Tech by 1977 B.S. Graduates (N=30)

ASPECTS	1 Very Unsatisfactory	2 Somewhat Unsatisfactory	3 Neither satisfactory nor Unsatisfactory	4 Somewhat Satisfactory	5 Very Satisfactory	$\bar{X}$	SD
1. Your teaching personality:							
a. Ability to work with children	1.0	3.9	17.5	35.9	38.8	4.1	1.0
b. Ability to work with colleagues	1.9	6.8	9.7	34.0	41.7	4.4	0.9
c. Ability to work with parents	8.7	10.7	19.4	42.7	15.5	3.7	1.1
2. Your general knowledge and understanding of:							
a. Sciences and Mathematics	3.9	5.8	20.4	38.8	22.3	3.8	1.1
b. Humanities	0.0	5.8	19.4	35.0	32.0	4.0	0.9
c. Social Sciences	0.9	6.8	18.4	51.5	16.5	4.2	0.8
3. Your ability to use the English language effectively	0.9	4.9	6.8	43.7	35.9	4.2	0.9
4. Your knowledge and understanding of the subjects which you teach	3.9	1.9	12.6	39.8	35.0	4.1	0.7
5. Your understanding of children and youth:							
a. Insight into causes of behavior	0.9	9.7	15.5	38.8	26.2	3.9	0.9
b. Skill in working with exceptional children (the bright, the dull, the handicapped)	6.8	11.7	29.1	26.2	16.5	3.5	1.0
c. Skill in maintaining discipline	9.7	11.7	25.2	31.1	18.4	3.8	1.0
6. Your understanding of the nature of the learning process	2.9	6.8	17.5	36.9	27.2	3.9	0.8
7. Your knowledge of sources of teaching materials	3.9	8.7	18.4	34.0	28.2	4.0	0.9
8. Your ability to use teaching materials effectively	0.9	8.7	14.6	44.7	24.3	3.9	0.9
9. Your knowledge and understanding of:							
a. The purposes of the school in relation to the over-all purpose of society	1.9	0.9	17.5	37.9	32.0	4.1	0.8
b. The social structure of the community and its meaning for education	3.9	1.9	18.4	39.8	27.2	4.0	0.9

*Percentages may not add to 100 because of missing data.

TABLE 11
Percent of Ratings of Various Aspects of the Undergraduate Teacher Preparation Program at Tennessee Tech by 1977 B.S. Graduates (N=30)

COURSE	Very Unsatisfactory 1	Somewhat Unsatisfactory 2	Neither Satisfactory nor Unsatisfactory 3	Somewhat Satisfactory 4	Very Satisfactory 5	Did Not Take Attn or Blank 6	$\bar{X}$	SD
10. Your evaluation of the following teacher preparation experiences								
a. INTRODUCTION TO TEACHING	16.5	14.6	13.6	20.4	14.6	18.4	3.1	1.2
b. GENERAL PSYCHOLOGY	5.8	7.8	22.3	35.9	13.6	14.6	3.2	1.0
c. HUMAN GROWTH AND DEVELOPMENT	6.8	12.6	26.2	28.2	19.4	6.8	3.5	1.1
d. EDUCATIONAL PSYCHOLOGY	11.7	12.6	17.5	29.1	14.6	14.6	3.3	1.4
e. SOCIAL FOUNDATIONS OF EDUCATION	26.2	16.5	18.4	19.4	10.7	8.7	2.7	1.3
f. HISTORY AND PHILOSOPHY OF EDUCATION	14.6	15.5	.8.4	20.4	15.5	15.5	3.2	1.2
g. EVALUATION AND GUIDANCE	6.8	6.8	15.5	28.2	30.1	12.6	3.7	1.1
h. METHODS COURSES	2.9	1.0	9.7	29.1	42.7	4.9	3.8	1.5
i. MICRO TEACHING	5.8	0.0	7.8	22.3	38.8	25.2	3.9	1.6
j. STUDENT TEACHING	2.9	4.9	4.9	22.3	59.2	5.8	4.6	1.2

The subjects were asked to rate the quality of instruction in the College of Education. Over 71 percent rated the instruction as satisfactory to very satisfactory. However, on the negative side over 16 percent rated the instruction as being unsatisfactory.

Principal Evaluations of Subjects

The principal of each subject was asked to complete two instruments designed to evaluate weaknesses and strengths of the individual. The first instrument consisted of 59 items related to the teacher education program of the subjects and has been used for the past seven years in the evaluative efforts of the Office of the Associate Dean. Table 12 shows the mean ratings for each item for the total group. There were no differences between the B.S. and M.A. individuals. No area was rated significantly low by the principals. However, principals appeared to perceive a problem with those areas marked with an asterisk (*).

Principals were also asked to complete the Teacher Evaluation by Supervisor form. This instrument consists of four questions encompassing the following areas: (a) subject matter competence, (b) relations with students, (c) appropriateness of assignments, and (d) overall effectiveness. Table 13

Table 12

Means and Standard Deviations of Ratings of Selected Items by Principals for all Subjects in Study (N=46)

Items	$\bar{X}$	SD
Understanding the goals of the school	4.7	0.6
Personal Appearance	4.7	0.4
Enthusiasm for the teaching profession	4.6	0.4
Adaptability in the classroom	4.7	0.4
Cooperation and dependability	4.7	0.4
Attitudes toward children	4.9	0.4
Attitudes toward fellow teachers	4.9	0.4
Attitudes toward supervisors	4.8	0.5
Accuracy in maintaining official records and reports	4.8	0.5
Understanding and using courses of study and curriculum guides	4.5	0.4
*Making effective use of community resources	4.1	0.8
Handling disciplinary problems	4.3	0.6
*Getting acquainted with the community and its people	4.4	0.6
Keeping abreast of recent professional developments	4.4	0.7
Evaluating pupil progress	4.7	0.5
*Motivating pupils who seem disinterested	4.4	0.5
Relationships with parents	4.6	0.5
Participation in professional activities	4.7	0.5
Potential for advancement in the profession	4.7	0.5
Relationships with fellow teachers	4.8	0.6
Overall effectiveness of this person in comparison with other teachers in your school	4.6	0.4
Overall qualifications of this person to teach in your particular school situation	4.7	0.6
1. Teaching personality:		
a. Ability to work with children	4.7	0.6
b. Ability to work with colleagues	4.8	0.6
c. Ability to work with members of the community	4.6	0.5
d. Ability to maintain a friendly discussion	4.7	0.5
e. Ability to lead a well-rounded life, to enjoy work and play	4.9	0.4
f. Ability to work with parents	4.5	0.5

Table 12 (continued)

2. General knowledge and understanding of:		
a. The physical sciences	4.5	0.6
b. The biological sciences	4.7	0.5
c. American culture and institutions	4.6	0.5
d. Art, music, literature, philosophy	4.7	0.5
e. Mathematics	4.7	0.5
3. Ability to use the English language effectively	4.6	0.6
4. Knowledge and understanding of the subject taught	4.8	0.4
5. Understanding of children and youth:		
a. Insight into causes of behavior	4.5	0.6
b. Skill in working with exceptional children (the bright, the dull, the handicapped)	4.6	0.5
c. Skill in group work	4.7	0.5
*d. Skill in maintaining discipline	4.2	0.9
e. Skill in guidance of children	4.6	0.5
6. Understanding of the nature of the learning process		
a. Skill in helping students determine objectives	4.6	0.5
b. Skill in motivating students	4.7	0.5
*c. Skill in pupil-teacher planning	4.3	0.9
d. Skill in using a variety of teaching methods	4.5	0.7
e. Skill in evaluating pupil growth and class procedures with pupils	4.6	0.6
f. Ability to construct appropriate tests and learning materials	4.4	0.5
g. Skill in the application of learning theory	4.6	0.6
h. Skill in providing differentiated learning experiences for various groups and individuals	4.5	0.5
7. Knowledge of sources of teaching materials		
a. Printed materials	4.6	0.6
b. Audio-visual materials	4.7	0.8
c. Community resources	4.3	0.7
d. Library and library materials	4.5	0.7
8. Ability to use teaching materials effectively	4.7	0.6
9. Knowledge and understanding of:		
a. The purposes of the school in relation to the overall purpose of society	4.6	0.5
b. The social structure of the community and its meaning for education	4.6	0.6
c. The institutions of the community	4.6	0.6
d. The different value-patterns of social-economic classes	4.6	0.6
e. The economic life of the community	4.8	0.8
f. Appropriate ethical behavior of the teacher	4.7	0.7

* Areas of concern to principals.

shows the mean ratings for each of these items for the 1977 graduates. An examination of the correlational pattern for the four variables with the other factors studies indicated results similar to those obtained in the past years of the study.

Table 13

Means and Standard Deviations of Principals' Ratings of 1977 Graduates on Four Dimensions of Teaching*

Dimensions	B.S. (N=27)		M.A. (N=19)	
	$\bar{X}$	SD	$\bar{X}$	SD
Subject Matter Competence	4.2	0.7	4.8	0.4
Relations with Students	4.4	0.6	4.6	0.5
Appropriateness of Assignments	4.2	0.6	4.5	0.6
Overall Effectiveness	4.0	0.6	4.6	0.6

*Ratings are on a 1-5 scale with 5 being the highest score.

Personality Scale

The California F-Scale Forms 45 and 40 were used to assess one aspect of the personality of the subjects. The F-Scale range of possible values was 28 to 196 with 112 the mid-point. The lower the values, the more non-authoritarian the indication. A total of 27 B.S. and 19 M.A. level graduates completed the instrument. The mean scores were, respectively, 100.9 (SD=23.2) and 104.1 (SD=19). This indicated that the subjects in the study tended toward being non-authoritarian. In comparison, subjects from the four previous years of the study achieved mean scores, respectively, of 112, 104, 101 and 97. Thus the groups in the fifth year of the study were similar to other first year groups. As in the past four years of the study, there appeared to be little relationship between the level of authoritarianism exhibited by the subjects and other factors in the study.

Student Evaluation of Teaching

Two forms of the Student Evaluation of Teaching were employed in the study. The SET-I was used with children in the classes of subjects above the third grade, while the SET-II was used with children below the fourth grade level. The instruments measure similar traits.

Table 14 shows the mean and standard deviation of the scores for each of the five factors and the composite score for the SET-I for the 1977 graduates teaching above the third grade. The maximum possible score for any factor of the composite score was 400. Highest ratings were received

on the factors of Friendly and Cheerful and Knowledgeable and Poised. This was in agreement with the results of the past three years of the study.

Table 15 shows the results of the administration of the SET-II in the classrooms of the individuals teaching below the fourth grade. Mean scores on each of the five factors were similar to the results reported in the second, third, and fourth years of the study. In general, the M.A. graduates received higher scores than the B.S. graduates.

Table 14

Student Evaluation of Teaching-I, 1977 Graduates

Factor	B.S. (N=18)		M.A. (N=12)	
	$\bar{X}$	SD	$\bar{X}$	SD
Friendly and Cheerful	333.8	43.5	336.0	46.2
Knowledgeable and Poised	325.2	34.4	350.8	23.3
Lively and Interesting	288.1	24.6	301.7	56.8
Firm Control (Discipline)	285.6	51.9	304.5	28.6
Non-Directive (Democratic Procedure	249.1	52.8	262.7	68.8
Composite Score	301.8	33.7	311.1	38.0

Table 15

Student Evaluation of Teaching-II (Grades K-3) 1977 Graduates

Factor	B.S. (N=10)		M.A. (N= 6)	
	$\bar{X}$	SD	$\bar{X}$	SD
Rapport	5.52	0.61	6.23	1.52
Interactional Competence	4.67	0.78	4.90	1.03
Stimulating, Interaction Style (Combination of Rapport and Interactional Competence)	9.37	2.78	11.12	2.52
Unreasonable Negativity	8.22	1.80	10.11	2.75
Fosterance of Self-Esteem	6.77	0.78	7.50	1.43

An examination of the correlational pattern of the SET-I with scores from other factors in the study approached those of first year subjects in the past four years of the study (1973-77). No attempt was made to study the correlational pattern of the SET-II.

Interaction Analysis

A ten category interaction analysis system was utilized to record observed classroom behavior of the subjects. The system proposed by Amidon and Flanders was implemented with the aid of three specially trained graduate assistants. A set of three to four observations was made on each subject. Each set contained from two to eight 20-minute periods of observation.

Table 16 shows a summary of the means and standard deviations of the various ratios for the observations. The data were comparable with that gathered during the previous three years of the study.

Table 16

Means and Standard Deviations for Interaction Analysis 1977 Graduates

Ratio	B.S. (N=30)		M.A. (N=18)	
	$\bar{X}$	SD	$\bar{X}$	SD
Indirect/Direct Teaching (i/d)	1.41	1.51	0.89	0.56
Indirect/Direct Teaching (I/D)	3.06	6.46	2.04	2.75
Student Talk/Teacher Talk (ST/TT)	0.78	1.07	0.76	0.83
Silence/Total Teaching (Sil/Tot)	0.32	0.28	0.36	0.22
Lecture/Total Teaching (Lec/Tot)	0.27	0.21	0.36	0.23

The I/D ratio in Table 16 is above the .50 average for teachers reported in earlier studies. More indirect teaching has been associated in some studies with higher student achievement and positive attitude formation. The i/d ratio is also higher than the ratio of less than 1.00 reported for the average teacher. The subjects in this study used more acceptance of feeling, praising, or encouraging than average teachers. Other ratios in Table 16 are similar to the ratios for teachers reported in other studies.

Table 17 shows a summary of the average percentage of time spent by the 1977 graduates at various grade levels acting in each of the ten interaction categories. In general, the amount of direct influence increases from the lower grades through the upper grades of the secondary school.

The amount of time spent in lecture increased almost 40 percent from the lower grades through the upper levels of the high school. Intercorrelations of Interaction Analysis scores from subjects (see Tables 5 and 6) indicated several minor correlations with scores from the COR similar to the results obtained in past studies.

Table 17

Average Percentage of Time Spent by 1977 Graduates (N=47) by Grade Levels Acting in Each of the Ten Interaction Categories*

Grade Level	1	2	3	4	5	6	7	8	9	10
Grades K-3 (N=7)	0.0	12.1	1.0	14.0	10.0	17.0	1.0	21.0	12.0	12.0
Grades 4-6 (N=3)	0.0	12.0	1.0	13.0	28.0	17.0	0.0	7.0	15.0	7.0
Grades 7-9 (N=6)	0.0	7.1	0.2	10.2	12.3	13.1	0.9	27.2	14.1	15.2
Grades 10-12 (N=4)	0.0	7.1	1.3	14.9	38.3	4.1	0.2	8.1	16.0	10.2
SPED (N=7)	0.0	15.3	1.9	16.4	8.1	14.3	1.0	16.0	13.3	13.4
All Grades (N=27)	0.0	11.1	1.1	13.8	16.2	13.5	0.7	17.6	13.7	12.2

*Categories 1-4, Indirect Influence of Teacher; 1=Accepts Feelings, 2=Priases or Encourages, 3=Accepts or Uses Ideas of Students, 4=Asks Questions.
Categories 5-7, Direct Influence of Teacher; 5=Lecuring, 6=Giving Directions, 7=Criticizing or Justifying Authority.
Categories 8-9, Student Talk; 8=Student Talk-Response, 9=Student Talk-Initiation.
Category 10, Silence or Confusion.

Classroom Observation Record

The Classroom Observation Record was completed on each subject by the observers at the conclusion of each visit. The instrument consisted of 22 items, four designed to assess pupil behavior and the remaining 18 assess dimensions of teacher behavior. Previous studies led to the conclusion that the instrument was measuring three factors as follows: Factor I consisted of items 10, 12, 14, 15, 16, 17, and 18 and corresponded in part to Ryans' Y_o factor of responsible, systematic, businesslike versus evading, unplanned, slipshod teacher behavior; Factor II consisted of items 5, 6, 7, 8, 9, 11, 13, 19, 20, 21, and 22 and corresponded to Ryans' X_o factor of kindly, understanding, friendly versus aloof, egocentric, restricted teacher behavior; Factor III consisted of items 1, 2, 3, and 4 which described pupil behavior (1,2). Scores from individual items were summed to obtain a factor score. Table 18 contained a summary of the means and standard

deviations for the three factor scores. In general B.S. level graduates received slightly higher scores than M.A. graduates.

Significant correlations were noted between the various factors and other measures for the B.S. level group. Significant positive correlations were noted between the factors and such measures as quality point averages and National Teacher Examinations scores, overall effectiveness as measured by principals' observations and to some degree the observations of students. Significant negative correlations were noted with several of the measures from the interaction analysis data (see Table 5).

Table 18

Means and Standard Deviations for Factors from the Classroom Observation Record, 1977 Graduates

Factor	B.S. (N=30)		M.A. (N=20)	
	$\bar{X}$	SD	$\bar{X}$	SD
I	44.4	3.8	42.0	10.3
II	69.4	5.2	65.3	16.1
III	24.9	2.8	23.4	6.2

Tuckman Teacher Feedback Form

The Tuckman Teacher Feedback Form (TTFF) was introduced during the 1976-77 phase of the study to add another dimension of observation. Results for the 1977 graduates were presented in Table 19. Based on the results of the study, it appeared that the graduates were at or slightly above the mean on all dimensions.

As a further dimension to the study, all data for the B.S. and M.A. graduates were combined and intercorrelations were computed between the dimensions from the TTFF and the COR. The results were presented in Table 20. It will be noted that there were highly significant correlations between the various factors and dimensions. Thus it might be concluded that the two instruments were measuring similar areas of competency.

An examination of the intercorrelations of the TTFF with the other measures used in the study, revaled a pattern similar to that noted with the COR. These data have been omitted from the report.

Table 19

Means and Standard Deviations for Four Dimensions of the Tuckman Teacher Feedback Form, 1977 Graduates*

Dimension	B.S. (N=30) $\bar{X}$	B.S. (N=30) SD	M.A. (N=20) $\bar{X}$	M.A. (N=20) SD
I. Creativity	31.7	8.2	30.4	8.0
II. Dynamism (Dominance and Energy)	31.9	6.5	31.2	6.1
III. Organized Demeanor (Organization and Control	36.4	5.9	36.7	4.2
IV. Warmth and Acceptance	39.5	4.8	38.0	5.1

* Possible range 19-43 with 31 being the mid-point. Scores above the mid-point tend toward the dimension.

Table 20

Means, Standard Deviations and Intercorrelations for Factor Scores From Classroom Observation Record and Tuckman Teacher Feedback Form for Total Group (N=50)*

Factor				1	2	3	4	5	6	7
COR										
1.	I	43.5	7.1	1000	953	878	757	507	802	830
2.	II	67.7	11.0		1000	921	737	367	700	848
3.	III	24.3	4.4			1000	618	323	564	647
TTFF										
4.	I	31.3	8.0				1000	619	690	726
5.	II	31.7	6.3					1000	546	411
6.	III	36.6	5.3						1000	816
7.	IV	39.0	4.9							1000

*All correlations significant beyond the .01 level. Decimal points have been omitted.

Summary

In summary, this chapter has presented an overview of the results of the fifth year of the application of the Tennessee Technological University Teacher Evaluation Model to 1977 graduates of the teacher preparation programs. For the first year, a sufficient sample size of both B.S. and M.A. graduates was used in the study. Thus, additional comparisons were possible. In general, the career base line data gathered on the B.S. level subjects was comparable to that from earlier studies. The ratings of the teacher preparation program were comparable with those obtained during the past several years. In general, the principals rated the subjects quite highly in such areas as ability to work with fellow teachers, ethical behavior, and knowledge of the subject matter taught. Ratings were generally higher for M.A. level subjects. Based on measures obtained with the California F-Scale, the subjects tended to be somewhat non-authoritarian in their beliefs (again, similar to past groups). Employing interaction analysis, and other classroom observation techniques, revealed that the subjects were using more indirect than direct teaching methods and were exhibiting many of the characteristics of good teachers as reported in the literature. Student ratings of the teachers were similar to the results of past studies, with democratic procedure and discipline being areas of concern. In general, the results are similar to past studies; however, differences were noted in the correlational patterns of the scores from the various measures.

References

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2. Ryans, David G. Characteristics of Teachers, Washington: American Council on Education, 1960.

CHAPTER III

PRESENTATION AND ANALYSES OF 1977 DATA FOR 1973 THROUGH 1976 B.S. SUBJECTS AND COMPARISONS WITH DATA COLLECTED ABOUT 1977 SUBJECTS

During the course of operation of the Tennessee Technological University Teacher Evaluation Model, data have been collected about a number of variables. The purpose of this chapter is to present a brief summary of some of the essential data collected about graduates who entered the study in 1973, 1974, 1975 or 1976 and to make comparisons across three, four, and five years. It should be noted that there are other data analyses that will be performed in the future. The comparisons presented in this chapter are what were felt to be essential in making decisions with regard to continuation and modification of the basic teacher evaluation model.

This chapter is divided into two major sections as follows: study of first year (1973) subjects across five years, second year (1974) subjects across four years, and third year (1975) subjects across three years; and comparisons of data about all first year subjects (1973, 1974, 1975, 1976 and 1977) four groups during their second year in the study, and three groups during their third year in the study. The analyses that were performed were only representative of the type information that was available or that can be obtained.

Comparison Study of Subjects Who Have Been in Study Five, Four and Three Years

This section presented a summary of a comparison of the information collected on those subjects who initially entered the study in 1973 and have remained in the project for five years. Comparison data were presented for four primary instruments used in the study. The principal statistical tool used to determine significant differences was the analysis of variance technique. In 1973 a total of 53 subjects entered the program. This number has been reduced by attrition to 32 in 1974, 26 in 1975, 18 in 1976 and 16 in 1977.

Principals' Ratings

Table 21 showed a comparison of the means and standard deviations for the principals' ratings of the subjects across the five year period. Use of the analysis of variance technique indicated there were no significant differences in the ratings given by the principals on each of the four factors of the instrument across the three year period. The ANOVA table has been omitted. In general, the subjects received ratings in excess of 4 on a scale of 5 to 1, with 5 being the highest possible score.

Tables 22 and 23 showed comparisons of the means and standard deviations for the principals' ratings of the subjects who entered the study in 1974

across a four year period and those who entered the study in 1975 across a three year period. Again, application of ANOVA indicated that there were no significant differences in ratings.

Table 21

Comparison of Principals' Ratings Across Five Years (1973-1977) for B.S. Subjects in Study for Total Period

Factor	GRP 1973(N=46)		GRP 1974(N=25)		GRP 1975(N=20)		GRP 1976(N=16)		GRP 1977(N=16)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	4.1	0.7	4.1	0.8	4.2	0.8	4.2	0.5	4.5	0.5
II	4.1	0.8	4.1	0.9	4.2	0.9	4.4	0.6	4.4	0.8
III	4.2	0.7	3.9	0.7	4.4	0.8	4.4	0.6	4.4	0.6
IV	4.1	0.7	4.1	0.8	4.1	0.8	4.2	0.5	4.5	0.5

Table 22

Comparison of Principals' Ratings Across Four Years (1974-1977) For B.S. Subjects Who Entered Study in 1974

Factor	GRP 1974(N=29)		GRP 1975(N=26)		GRP 1976(N=19)		GRP 1977(N=12)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	4.0	0.8	4.2	0.7	4.4	0.6	4.3	0.7
II	4.2	0.9	4.1	0.8	4.4	0.7	4.5	0.8
III	4.1	0.7	4.1	0.7	4.3	0.7	4.4	0.7
IV	4.2	0.8	4.2	0.7	4.2	0.7	4.3	1.0

Student Evaluation of Teaching

Table 24 showed a comparison of the means and standard deviations for each of the five factors and the total score (VI) for the Student Evaluation of Teaching for the five year period 1973 through 1977 (for subjects who entered the study in 1973. Application of the analysis of variance technique indicated there were no significant differences in the ratings of the subjects by their students across the five year period. Similar

results were obtained for subjects who entered the study in 1974 and 1975 across three or four year periods (Tables 25 and 26).

Table 23

Comparison of Principals' Ratings Across Three Years (1975-1977) for B.S. Subjects Who Entered Study in 1975

Factor	GRP 1975(N=30)		GRP 1976(N=17)		GRP 1977(N=17)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	4.2	0.7	4.2	0.9	4.4	0.9
II	4.5	0.7	4.5	0.7	4.6	0.7
III	4.3	0.7	4.2	0.8	4.4	0.8
IV	4.3	0.7	4.2	0.8	4.4	0.7

Table 24

Comparison of SET-I Scores Across Five Years (1973-1977) For Subjects in Study for Total Period

Factor	GRP 1973(N=35)		GRP 1974(N=26)		GRP 1975(N=14)		GRP 1976(N=4)		GRP 1977(N=11)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	334.0	51.1	341.3	40.8	338.4	44.4	331.0	15.1	309.2	62.5
II	342.9	53.7	347.6	31.1	355.0	25.5	341.0	27.1	338.9	31.9
III	304.8	61.1	297.3	52.7	298.0	56.5	281.5	29.2	283.6	65.7
IV	308.3	37.5	303.2	38.7	300.2	32.2	267.0	14.1	301.9	32.1
V	250.2	48.3	260.0	52.5	275.9	36.8	246.5	31.8	232.5	57.1
TOTAL -VI	309.1	32.0	313.8	31.2	311.5	27.6	293.5	23.5	297.0	41.7

Table 25

Comparison of SET-I Scores Across Three Years (1975-1977) for B.S. Subjects Who Entered Study in 1975

Factor	GRP 1975(N=19)		GRP 1976(N=7)		GRP 1977(N=9)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	347.6	32.8	350.7	29.2	328.1	42.1
II	347.3	24.3	338.7	31.0	341.6	30.8
III	303.5	38.7	303.3	50.1	298.1	41.9
IV	304.8	38.5	286.4	26.7	304.8	46.5
V	247.5	48.6	279.4	49.5	262.8	72.8
VI-Total	310.1	25.7	311.6	30.9	304.6	39.4

Table 26

Comparison of SET-I Scores Across Four Years (1974-1977) For B.S. Subjects Who Entered Study in 1974

Factor	GRP 1974(N=21)		GRP 1975(N=14)		GRP 1976(N=11)		GRP 1977(N=9)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	310.7	43.5	336.6	31.2	327.2	39.3	319.1	69.4
II	314.5	70.1	356.8	18.4	344.1	21.9	346.0	25.1
III	306.5	36.4	298.4	35.6	289.9	60.0	308.0	74.3
IV	299.5	48.6	310.1	32.2	295.2	63.5	309.9	49.3
V	242.2	36.7	267.4	41.2	236.2	43.3	256.6	50.8
VI-Total	295.9	48.5	313.8	19.4	298.5	32.8	307.3	37.0

Interaction Analysis

Table 27 showed the means and standard deviations across five years from the results of the application of the interaction analysis technique. In general, the indirect to direct ratio of teaching has increased each year of the study, whereas the other variables have remained nearly constant.

Application of the ANOVA indicated that no significant differences existed among the variables across the five years of the study. Similar findings were noted for subjects in the study for four and three years respectively (Table 28 and 29).

Table 27

Comparison of Ratios From Interaction Analysis Across Five Years (1973-1977) for B.S. Subjects in Study for Total Period

Ratio	GRP 1973(N=43)		GRP 1974(N=26)		GRP 1975(N=23)		GRP 1976(N=16)		GRP 1977(N=16)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
i/d	0.78	0.77	0.71	0.32	0.47	0.30	1.15	1.47	1.05	1.18
I/D	1.62	2.00	1.53	1.07	1.16	1.08	2.73	2.41	1.81	2.52
ST/TT	0.61	0.59	0.55	0.37	0.39	0.24	0.58	0.36	0.71	0.81
Sil/Tot	0.45	0.95	0.33	0.35	0.31	0.27	0.32	0.32	0.31	0.22
Lec/Tot	0.50	0.21	0.44	0.16	0.59	0.16	0.48	0.25	0.34	0.23

Table 28

Comparison of Ratios From Interaction Analysis Across Four Years (1974-1977) for B.S. Subjects Who Entered Study in 1974

Ratio	GRP 1974(N=31)		GRP 1975(N=26)		GRP 1976(N=15)		GRP 1977(N=11)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
i/d	0.66	0.46	0.71	0.49	1.00	0.79	0.69	0.41
I/D	1.33	1.96	1.93	1.77	2.37	2.13	0.81	0.66
ST/TT	0.78	1.18	0.80	1.00	0.55	0.27	0.73	0.40
Sil/Tot	0.51	0.77	0.53	0.43	0.18	0.15	0.32	0.18
Lec/Tot	0.40	0.18	0.47	0.16	0.47	0.39	0.40	0.24

Classroom Observation Record

Tables 30, 31, and 32 showed comparisons of the means and standard deviations from three factors of the Classroom Observation Record across

five, four and three years respectively. Again, the application of the ANOVA indicated that there were few significant differences across the years.

Table 29

Comparison of Ratios From Interaction Analysis Across Three Years (1975-1977) for B.S. Subjects Who Entered Study in 1975

Ratio	GRP 1975(N=28)		GRP 1976(N=14)		GRP 1977(N=17)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
i/d	0.75	0.40	1.67	2.02	0.94	0.69
I/D	3.69	2.69	2.38	1.48	1.89	2.46
ST/TT	0.52	0.18	0.77	0.43	0.52	0.33
Sil/Tot	0.39	0.28	0.14	0.19	0.22	0.13
Lec/Tot	0.52	0.12	0.61	0.89	0.39	0.18

Table 30

Comparison of COR Factor Scores Across Five Years (1973-1977) For Subjects in Study for Total Period

Factor	GRP 1973(N=46)		GRP 1974(N=26)		GRP 1975(N=23)		GRP 1976(N=16)		GRP 1977(N=16)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	42.0	4.8	38.0	3.9	44.0	3.6	40.0	4.0	39.7	6.8
II	65.4	7.6	59.0	5.9	65.9	4.8	63.6	4.7	63.4	8.1
III	22.6	3.2	19.9	2.9	22.8	3.0	20.2	2.6	23.0	4.0

Table 31

Comparison of COR Factor Scores Across Four Years (1974-1977)
For B.S. Subjects Who Entered Study in 1974

Factor	GRP 1974(N=31)		GRP 1975(N=26)		GRP 1976(N=15)		GRP 1977(N=12)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	38.1	3.9	44.9	3.8	40.8	4.0	42.8	3.7
II	57.6	4.9	67.2	5.1	61.1	4.7	65.6	4.9
III	19.4	1.9	23.7	2.6	21.0	2.1	24.1	2.0

Table 32

Comparison of COR Factor Scores Across Three Years (1975-1977)
For B.S. Subjects Who Entered Study in 1975

Factor	GRP 1975(N=28)		GRP 1976(N=15)		GRP 1977(N=17)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	43.3	4.0	39.9	3.9	43.2	4.2
II	68.1	5.0	62.7	5.3	67.7	5.4
III	23.5	3.0	20.7	2.5	24.7	2.3

Comparison Study of all First Year Subjects 1973, 1974, 1975, 1976 and 1977 And Selected Comparisons on Third and Fourth Year Subjects

This section presented a summary of a comparison of the information gathered on all first year B.S. level subjects, i.e., 1973, 1974, 1975, 1976 and 1977 graduates. Comparison data are presented from eight sources. The principal statistical tool used to determine significant differences was the analysis of variance technique. The total number of subjects for each year was as follows: 1973, N=49; 1974, N=33; 1975, N=32; 1976, N=21; and 1977, N=30.

National Teacher Examinations

Table 33 showed the means and standard deviations of scores from the Teaching Area Examination, Professional Education Test and Composite for the National Teacher Examinations for each of the five years. Also shown is the composite score for all years. Application of the analysis of variance technique for the data across the five years indicated there were no significant differences. In general, the subjects achieved scores on the NTE at or slightly below the 50 percentile (National Norms).

Table 33

Comparison of National Teacher Examinations Scores
For First Year B.S. Subjects 1973-1977 by Year

Test	GRP 1973(N=48)		GRP 1974(N=27)		GRP 1975(N=28)		GRP 1976(N=21)		GRP 1977(N=27)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Tch. Area Exam.	591.4	66.9	604.3	75.3	590.4	85.5	632.1	54.5	605.9	61.7
Prof. Ed. Test	218.5	31.1	229.5	39.2	216.4	49.9	65.5*	31.4	57.8	7.8
Composite	1,140.6	114.6	1,174.9	148.3	1,161.9	157.2	1,228.8	97.3	1,188.6	101.4

* Examination scoring changed in 1975-76.

American College Test

Table 34 showed comparative data from the results of the administration of the American College Test for all subjects across the five year period. It should be noted that students completed the ACT prior to admission to the freshman class of the University. No significant differences were noted in the subtest or the composite scores from administration of the instrument. In general, the subjects were above the mean for all students admitted to the University during the period 1967 through 1974 (the possible date of initial admission to the University for the subjects).

Table 34

Comparison of American College Test Scores for First Year
B.S. Subjects 1973-1977 by Year

Area	GRP 1973(N=32)		GRP 1974(N=27)		GRP 1975(N=25)		GRP 1976(N=21)		GRP 1977(N=24)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
English	20.3	7.8	19.0	8.0	20.0	7.1	19.9	3.4	19.3	3.8
Mathematics	17.3	8.5	15.7	5.7	16.5	5.2	17.4	6.2	17.5	6.1
Soc. Sci.	16.5	6.8	17.9	8.7	19.1	7.2	19.3	5.6	19.8	5.6
Nat. Sci.	17.8	5.3	21.6	14.9	21.4	11.4	20.9	3.4	20.4	3.9
Composite	19.5	11.9	18.7	7.1	20.6	11.2	19.6	3.5	19.6	5.3

Quality Point Averages

Table 35 showed a comparison of the means and standard deviations for a variety of undergraduate quality point averages in selected subject matter areas for subjects across the five years of the study. In general, across the five year period quality point averages have increased; however, application of the ANOVA indicated no significant differences.

Table 35

Comparison of Quality Point Averages in Various Areas for First Year B.S. Subjects 1973-1977 by Year

Area	GRP 1973(N=52)		GRP 1974(N=32)		GRP 1975(N=32)		GRP 1976(N=21)		GRP 1977(N=30)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Soc. Sci.	2.48	0.58	2.58	0.74	2.57	0.71	2.53	0.69	2.49	0.60
Science	2.43	0.77	2.55	0.66	2.72	0.74	2.49	0.65	2.50	0.61
Mathematics	2.55	0.85	2.77	0.75	2.93	0.92	2.93	0.90	2.80	0.86
English	2.52	0.65	2.73	0.58	2.75	0.65	2.83	0.62	2.79	0.68
Ed. & Psy.	3.20	0.47	3.31	0.38	3.44	0.29	3.42	0.29	3.30	0.31
Major Field	3.23	1.31	3.30	0.89	3.28	0.43	3.40	0.48	3.39	0.40
Overall	2.84	0.44	3.04	0.72	3.10	0.40	3.15	0.48	3.16	0.40

California F-Scale

A comparison of the results of the administration of the California F-Scale to all first year subjects was shown in Table 36. In general, the subjects in the first year of the study tended to exhibit more authoritarian tendencies than did subjects in the second and third year of the study. Application of the analysis of variance technique indicated no significant differences between the four groups.

Table 36

Comparison of F-Scale Scores for First Year B.S. Subjects 1973-1977 by Year

F-Scale	GRP 1973(N=40)		GRP 1974(N=29)		GRP 1975(N=31)		GRP 1976(N=29)		GRP 1977(N=27)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Score	112.6	9.5	101.7	20.0	101.9	24.2	97.1	15.9	100.9	23.2

Principals' Ratings

Table 37 showed the mean and standard deviation of the principals' ratings of the first year subjects across the five years of the study.

Application of the analysis of variance technique to the data indicated there were no significant differences on each of the four factors across the five years of the study. Similar results were noted for individuals in the second and third year of the study (Tables 38 and 39).

Table 37

Comparison of Principals' Ratings for First Year B.S. Subjects by Year 1973-1977

Factor	GRP 1973(N=46)		GRP 1974(N=29)		GRP 1975(N=29)		GRP 1976(N=21)		GRP 1977(N=27)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	4.1	0.7	4.0	0.8	4.2	0.7	4.3	0.6	4.2	0.7
II	4.1	0.8	4.2	0.9	4.5	0.7	4.4	0.7	4.4	0.6
III	4.2	0.7	4.0	0.7	4.2	0.7	4.4	0.7	4.2	0.6
IV	4.1	0.7	4.1	0.8	4.1	0.7	4.4	0.7	4.0	0.6

Table 38

Comparison of Principals' Ratings for B.S. Groups at Time of Being in Study for Second Year (1973, 1974, 1975 and 1976 Graduates in 1974, 1975, 1976 and 1977)

Factor	GRP 1973(N=28)		GRP 1974(N=26)		GRP 1975(N=17)		GRP 1976(N=12)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	4.1	0.7	4.2	0.7	4.2	0.9	4.8	0.4
II	4.1	0.9	4.1	0.8	4.5	0.7	4.4	0.7
III	3.9	0.7	4.1	0.7	4.2	0.8	4.4	0.5
IV	4.1	0.8	4.2	0.7	4.2	0.8	4.6	0.5

Student Evaluation of Teaching

Table 40 showed the means and standard deviations for the first year subjects across the five years for each of the factors of the SET-I and the total score (VI). Table 41 showed similar data for all subjects during their second year in the study and Table 42 shows the results for third year subjects. Again the application of the analysis of variance or t-test techniques indicated no significant differences across years.

Table 39

Comparison of Principals' Ratings for B.S. Groups at Time of Being in Study For Third Year (1973, 1974 and 1975 Graduates in 1975, 1976 and 1977)

Factor	GRP 1973(N=20)		GRP 1974(N=19)		GRP 1974(N=17)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	4.2	0.8	4.4	0.6	4.4	0.9
II	4.2	0.9	4.4	0.7	4.6	0.5
III	4.4	0.8	4.3	0.6	4.4	0.8
IV	4.1	0.8	4.2	0.7	4.4	0.7

Table 40

Comparison of SET-I Scores for First Year Subjects Across Five Years 1973-1977

Factor	GRP 1973(N=25)		GRP 1974(N=10)		GRP 1975(N=19)		GRP 1976(N=15)		GRP 1977(N=18)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	344.5	45.8	307.9	56.8	347.6	32.8	344.7	32.3	333.8	43.5
II	346.6	38.3	309.6	70.4	347.3	24.3	331.8	35.2	325.2	34.4
III	307.1	63.6	299.1	57.1	303.5	38.7	292.3	36.9	288.1	24.6
IV	306.6	38.2	312.6	37.5	304.8	38.5	294.2	27.4	285.6	51.9
V	255.9	44.9	236.0	55.6	247.5	48.6	273.8	39.9	249.1	52.8
VI-Total	315.6	29.4	292.8	34.2	310.1	25.7	307.3	20.0	301.8	33.7

Table 41

Comparison of SET-I Scores for B.S. Groups at Time of Being in Study for Second Year (1973, 1974, 1975 and 1976 Graduates in 1974, 1975, 1976 and 1977)

Factor	GRP 1973(N=25)		GRP 1974(N=14)		GRP 1975(N=7)		GRP 1976(N=8)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	293.8	37.6	336.6	31.2	350.7	29.2	338.1	49.5
II	361.6	71.9	356.8	18.4	338.7	31.0	337.3	32.7
III	313.4	43.0	298.4	35.6	303.3	50.1	304.0	41.0
IV	265.8	48.2	310.1	32.2	286.4	26.7	300.4	32.7
V	243.0	40.2	267.4	41.2	279.4	49.5	263.9	43.2
VI-Total	295.6	47.7	313.8	19.4	211.6	30.9	308.6	29.8

Table 42

Comparison of SET-I Scores for B.S. Groups at Time of Being in Study for Third Year (1973, 1974 and 1975 Graduates in 1975, 1976 and 1977)

Factor	GRP 1973(N=14)		GRP 1974(N=11)		GRP 1975(N=9)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	338.4	44.4	327.2	39.3	328.1	42.1
II	355.0	25.5	344.1	21.9	341.6	30.8
III	298.0	56.5	289.9	60.3	298.1	41.9
IV	300.2	32.2	295.2	63.5	304.8	46.5
V	275.9	36.8	236.2	43.3	252.8	72.8
VI-Total	311.5	27.6	298.5	32.8	304.6	39.4

Table 43

Comparison of Ratios from Interaction Analysis for First Year B.S. Subjects 1973-1977

Ratio	GRP 1973(N=39)		GRP 1974(N=31)		GRP 1975(N=38)		GRP 1976(N=18)		GRP 1977(N=30)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
i/d	0.98	1.57	0.65	0.46	0.75	0.45	0.87	0.68	1.41	1.51
I/D	2.10	3.60	1.32	1.96	3.18	3.25	3.16	2.94	3.06	6.46
ST/TT	0.64	0.61	0.78	1.17	0.52	0.19	0.69	0.50	0.78	1.07
Sil/Tot	0.47	0.99	0.50	0.76	0.39	0.36	0.13	0.13	0.32	0.28
Lec/Tot	0.51	0.21	0.40	0.18	0.51	0.14	0.45	0.24	0.27	0.21

Table 44

Comparison of Ratios From Interaction Analysis for B.S. Groups at Time of Being in Study for Second Year (1973, 1974, and 1975 Graduates in 1974, 1975 and 1976)

Ratio	GRP 1973(N=28)		GRP 1974(N=26)		GRP 1975(N=14)		GRP 1976(N=18)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
i/d	0.70	0.31	0.71	0.49	1.67	2.02	1.15	1.23
I/D	1.55	1.03	1.93	1.77	2.38	1.48	1.62	2.91
ST/TT	0.58	0.44	0.80	1.00	0.77	0.43	0.62	0.25
Sil/Tot	0.34	0.36	0.53	0.43	0.14	0.19	0.39	0.25
Lec/Tot	0.45	0.16	0.47	0.16	0.61	0.89	0.29	0.21

Interaction Analysis

Table 43 showed the means and standard deviations for the five ratios derived from the use of interaction analysis with the first year subjects. Results of the application of the analysis of variance technique to the data indicated a significant difference (at the .05 level) in the Lecture/Total ratio. Application of the t-test indicated that there were significant differences between first and second and third and second and fifth and all other year subjects. The Lec/Tot ratio was significantly lower for

the 1974 and 1977 groups. No explanation can be offered for the apparent lower Lec/Tot ratio for the groups.

Tables 44 and 45 showed similar results for all second and third year subjects respectively. Application of analysis of variance indicated no significant differences.

Table 45

Comparison of Ratios From Interaction Analysis for B.S. Groups at Time of Being in Study for Third Year (1973, 1974 and 1975 Graduates in 1975, 1976 and 1977)

Ratio	GRP 1973(N=23)		GRP 1974(N=24)		GRP 1975(N=18)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
i/d	0.47	1.08	1.01	0.79	0.94	0.69
I/D	1.16	0.30	2.37	2.13	1.89	2.46
ST/TT	0.39	0.24	0.55	0.27	0.52	0.33
Sil/Tot	0.31	0.27	0.18	0.15	0.23	0.14
Lec/Tot	0.59	0.16	0.48	0.39	0.39	0.18

Classroom Observation Record

Tables 46 through 48 showed the results of the use of the Classroom Observation Record for all first, second and third year subjects. No significant differences were noted across the various groups.

Table 46

Comparison of COR Scores for First Year B.S. Subjects 1973-1977 by Year

Factor	GRP 1973(N=42)		GRP 1974(N=31)		GRP 1975(N=31)		GRP 1976(N=21)		GRP 1977(N=30)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	42.0	3.8	38.0	3.1	43.6	3.0	40.5	3.7	44.4	3.8
II	65.4	5.1	67.6	4.9	68.1	5.4	61.1	5.0	69.4	5.2
III	22.6	3.0	19.4	3.8	23.5	2.9	19.7	3.2	24.9	2.8

Table 47

Comparison of COR Scores for B.S. Groups at Time of Being in Study for Second Year (1973, 1974, 1975 and 1976 Graduates in 1974, 1975, 1976 and 1977)

Factor	GRP 1973(N=28)		GRP 1974(N=26)		GRP 1975(N=15)		GRP 1976(N=15)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	38.0	3.5	38.4	4.0	39.9	3.9	44.0	3.7
II	58.9	3.9	67.2	5.1	62.1	4.8	68.1	3.9
III	19.9	3.3	23.7	2.4	20.7	2.9	24.7	2.5

Table 48

Comparison of COR Scores for B.S. Groups at Time of Being in Study for Third Year (1973, 1974 and 1975 Graduates in 1975, 1976 and 1977)

Factor	GRP 1973(N=23)		GRP 1974(N=15)		GRP 1975(N=18)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
I	44.0	3.7	40.8	4.0	43.2	4.2
II	65.9	5.5	61.2	5.0	67.7	5.4
III	22.8	1.9	26.0	2.5	24.7	2.3

Summary

In summary, this chapter has presented selected data collected from other than first year subjects in the study. Also, a brief study of comparisons of data collected over the five year period of the study was presented. Comparisons of data collected on the same groups of subjects across five, four and three years indicated few differences. Data collected on five groups of first year subjects, four groups of second year subjects and three groups of third year subjects also revealed few differences. It might be concluded that the subjects changed little over the five years of the study and that the graduates entering the teaching field have changed little over the period. Further study will be conducted in future years of the project to verify these results. Also, additional analyses will be conducted to verify other hypothesized results.

CHAPTER IV

SUMMARY, CONCLUSIONS, RECOMMENDATIONS AND FUTURE PLANS

The objectives of the presentation in this chapter were fourfold: (1) brief summary of the total evaluation study that was conducted in 1977-78; (2) summary of the major conclusions of the study; (3) recommendations based on the conclusions of the study; and (4) plans for the continuation of the study.

Summary

Five groups of subjects (graduates of the teacher preparation program of Tennessee Technological University) were used in the study as follows: (1) prior to 1974, 16; (2) 1974, 14; (3) 1975, 18; (4) 1976, 16; and (5) 1977, 53 (including 23 M.A. and 30 B.S. graduates). Detailed data were collected on each subject by use of standardized instruments and specially constructed questionnaires administered by trained graduate research assistants. Also personal data about each graduate was collected from University records. Basic instrumentation and procedures for the study were pilot tested during the first year and have remained virtually unchanged. The current year included: (1) University permanent records and transcript information; (2) principals' evaluation of each subject by the use of two different instruments; (3) administration of the California F-Scale (only to those subjects who were participating in the study for the first time) to measure individual prejudices and anti-democratic tendencies; (4) administration of the Classroom Observation Record and the Tuckman Teacher Feedback Form; (5) administration of one form of the Student Evaluation of Teaching to the students of the subjects; and (6) a ten category interaction analysis system to record observed classroom behavior. All data obtained in the study were classified, coded, and key punched for analyses. Descriptive statistics, intercorrelations and comparisons were computed. The major findings of the study were divided into three major parts, e.g., first year subjects, comparisons across time and by area, and special studies.

The major findings of the study for the first year subjects (1978 graduates) were similar to those reported in the first four years of the study. Comparisons made between the B.S. and M.A. individuals indicated few significant differences. Therefore, no detailed explanation of the findings will be given at this point (see Chapter II). Comparisons across years for all first year subjects in the project indicated few differences as did comparisons for subjects who had been in the study five, four, and three years. The differences that were noted were minor and in most cases no explanation can be offered for the changes. In summary, it appeared that the subjects who had been in the study for more than one year had changed little. Also it appeared that those subjects who entered the study in 1977 were little different from their counterparts that were in the initial year (1973-74) of the project.

Based on the findings of the study, several conclusions were advanced and recommendations made for continuation of the study. These follow in the next three sections.

Conclusions

Following are the major conclusions of the study based on the findings. It should be noted that additional analyses of the data are planned that may make additional conclusions warranted. This section is divided into three parts: Use of the Evaluation Model, Evaluation of Graduates During 1977-78 and Comparisons of Data Across Time.

Use of the Evaluation Model

1. The plan of evaluation outlined in this report appeared to be useful in gathering information for modifying and improving the programs of teacher education at Tennessee Technological University.

2. Instrumentation employed in the study appeared to be valid and provided essential information with regard to the graduates of the teacher education programs.

3. Modifications can be made in the original model that can lead to more valid and useful information for an institution wishing to replicate the plan of evaluation.

4. Some problems have resulted in the collection and analyses of data because of the attrition of subjects from the study. Additional attrition in the future may make it difficult to draw valid and reliable conclusions.

5. Better and more refined methods are needed for training of the graduate assistants in the use of the various observation instruments. It was felt that some of the significant differences that were noted in the study may have been due to unreliable observations.

Evaluation of Graduates During 1977-78

1. The pupils of more experienced teachers appeared to be more alert, initiating, and resourceful in the classroom activities.

2. Subjects with greater experience in the classroom appeared to be more fair, democratic, alert, and have a broader base of behavior than the less experienced teachers.

3. Students of subjects in the upper grades felt that the teachers did not exercise enough control in the classroom.

4. As perceived by students, the teachers in the upper grades were more directive in the instructional activities than teachers in the lower grades.

5. Subjects at higher grade levels were using significantly more lecture in the classroom than teachers in the lower grades.

6. Subjects with higher quality point averages in education and psychology courses had better relations with students and were in general more friendly and cheerful, knowledgeable and poised, and non-directive in their teaching.

7. Subjects who achieved higher quality point averages in their major teaching fields tended to be more authoritarian oriented than subjects who achieved at a lower level. This was probably due in part to the fact that the large majority of the subjects were teaching in the upper grades where less democratic and more authoritarian teaching methods were used or the subjects were attempting to complete a specified unit or curriculum.

8. Overall scores achieved by the subjects on the National Teacher Examinations placed the individuals at approximately the 50th percentile which is comparable with other groups that have been studied.

9. Ratings of various aspects of the teacher preparation program of the University by the subjects were similar to that of other groups of individuals.

10. In general, principals' ratings of the subjects were high. However, it should be pointed out that principals rated the subjects somewhat lower in their knowledge and understanding of the sciences and mathematics, lacking effective use of community resources, handling disciplinary problems, and insight into characteristics of behavior. Highest ratings of the subjects were noted in the areas of ability to work with and attitudes toward colleagues, ethical behavior, understanding the goals of the school, and cooperation and dependability.

11. There was a positive correlation between the principals' ratings and various items on the Classroom Observation Record and the Student Evaluation of Teaching. Based on the principals' observation (it appeared that) the subjects in this study possessed many of the characteristics of good teachers as reported in the literature.

12. The subjects of this study appeared to be more non-authoritarian than authoritarian as measured by the California F-Scale. There were no significant differences in scores achieved by the subjects when examined on the basis of grade level or years of experience in the classroom. These findings are to some degree contrary to findings of other studies reported in the literature.

13. Based on student observations, the subjects were highly knowledgeable and poised; and on the negative side the students perceived the subjects as being more directive than non-directive as measured by the Student Evaluation of Teaching.

14. The subjects in the study appeared to be using more indirect than direct teaching methods in their classrooms. Indirect-direct ratios based on the interaction analysis system used were higher than for comparable groups.

15. Other ratios computed from the interaction analysis observations were comparable to those reported in the literature.

16. Many of the characteristics reported in the literature of good teachers were noted as a result of the administration of the Classroom Observation Record.

17. There appeared to be few differences between B.S. and M.A. level 1977 graduates.

In general, the subjects of this study possessed many of the characteristics of good teachers as reported in the literature. As might be expected, it was difficult to identify specific problems. Principals praised the subjects as did their students. However, it must be kept in mind that the subjects who participated in this study were volunteers. Therefore, some bias was introduced into the total study that may make some of the conclusions invalid when applied to the total population of graduates.

Comparisons of Data Across Time

1. Subjects who entered the study in 1973 (the first year of the project) have changed little across the five year period.

2. Subjects who entered the project in 1973, 1974, 1975, 1976 or 1977 appeared to be very similar in their first year of teaching. Either the University programs have not chnaged sufficiently for changes to occur or the instrumentation is not sensitive enough to pick up the changes.

3. Based on the results of the very limited comparisons that were made, the subjects reached a level of teaching proficiency during their first year in the classroom and this level has remained nearly constant across five years.

In summary, the results of the study lead to similar conclusions as in the past. Across the five years of the study, the subjects have remained almost unchanged and comparisons of the five first year groups indicated few or no differences. It might be further concluded that if there are differences in the groups, the present instrumentation is not sensitive to the differences.

Recommendations

Based on the conclusions of the study, it is felt that the following conclusions were warranted. These recommendations centered largely around the continuation and modification of the study outlined in this report. It was left to the reader to make recommendations relative to his individual problems and concerns and toward needed changes in the teacher education program of the institution.

1. The plan outlined in this report should be replicated during 1978-79 adding another group of subjects who completed the B.S. or M.A. requirements in 1978.

2. Continuing contact should be maintained with other institutions and agencies pursuing similar projects and the literature related to teacher evaluation should be continuously monitored.

3. Consideration will be given to the use of other instruments to gather data as they become available.

4. Further analyses of the data should be made employing more sophisticated statistical techniques such as factor analysis and discriminate analysis.

5. Faculty of the institution and other individuals should be encouraged to review the report and to request additional data analyses to fit their individual needs.

6. Better methods should be developed to optimize the participation of subjects in the study.

7. Faculty and administrators should be encouraged to make more effective use of the data that have been collected and to request additional information about points of interest.

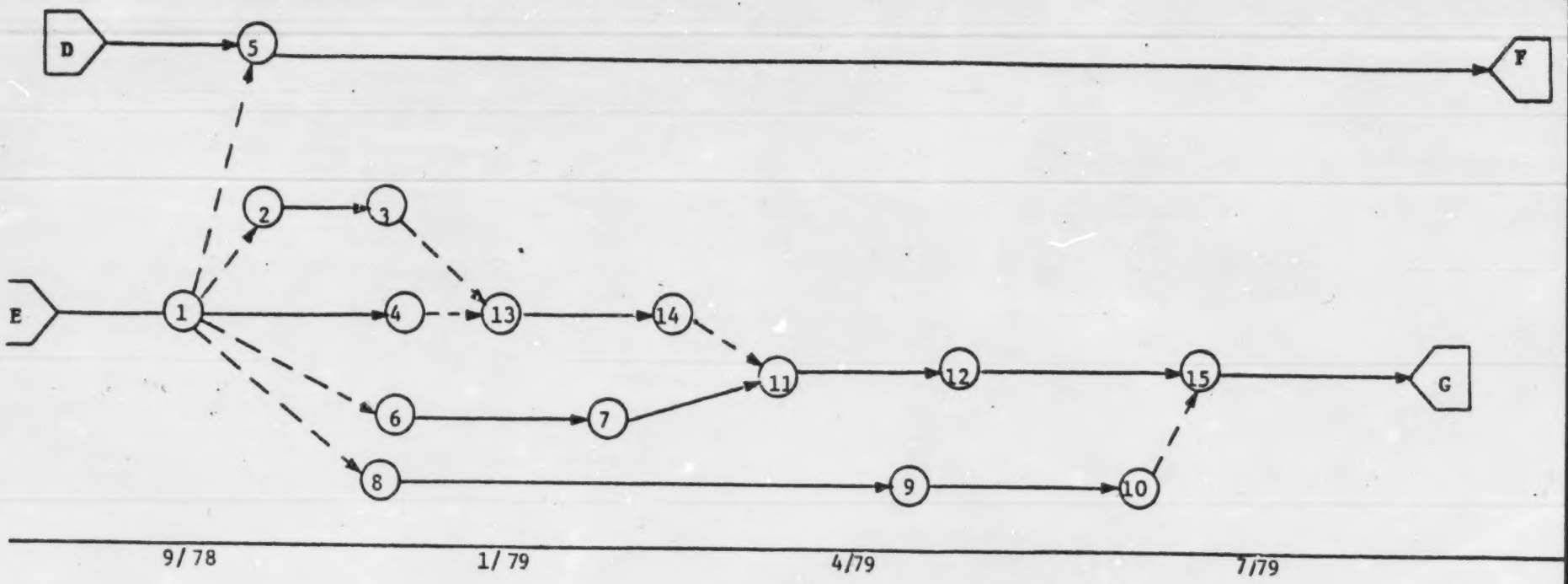
8. A more extensive data bank of information on all students in the teacher education programs should be established. Thereafter, a more meaningful study can be made in relation to predicting the success of graduates in teaching.

9. Work should continue on the development of other phases of the total evaluation project, i.e., instrumentation for use with Ed.S. level graduates and for those individuals in such fields as administration, supervision and counseling.

Plans for the Continuation of the Study During 1978-79

During 1978-79, particular emphasis will be placed on studies of graduates of the teacher preparation programs for the period 1974 through 1978. Subjects who graduated prior to 1974 will be dropped from further study as per the original design. The potential population of 1974 through 1977 graduates was 101. In addition, a sample of approximately fifty 1978 graduates will be added to the study.

Figure 4 shows an abbreviated chart for the major activities of the project during 1978-79. Initially, three graduate assistants will engage in intensive studies of the use of the observational instruments. This will occur from approximately September 15 through October 20. Concurrent with these activities, a schedule of visitations will be developed for the 1974 through 1977 graduates that have previously participated in the study. The 101 individuals will be visited starting the later part of October, 1978.



Summary of Activities

1-4 Finalize Plans for Visiting Subjects in 1974-77 Phases of Study	9-10 Prepare Reports of Related Studies
2-3 Training of Observers	7-11 Select Sample of 1978 Graduates for Intensive Study as Part of Followup
5-- Continuing Contact With Other Projects and Survey of the Literature	11-12 Make School Visits on 1978 Graduates
6-7 Survey All 1978 Graduates	13-14 Make School Visits on 1974-77 Graduates
8-9 Conduct Other Related Studies	12-15 Complete Reports and Submit
	15--- Begin Making Plans for 1979-80 Phase of Study

Figure 4. PERT Chart of Major Activities for 1978-79.

Visitation will continue until the end of January or the early part of February, 1979.

As soon as possible after the beginning of the fall quarter, a survey questionnaire will be sent to all 1978 graduates (Fall, 1977; Winter, 1978; Spring, 1978; and Summer 1978) of the teacher preparation programs of the University. At this same time the 1978 graduates will be asked to participate in the study. It is anticipated that a sample of 30 B.S. level graduates and 20 M.A. level graduates will be selected. During the early part of the winter of 1979, a schedule of visitation for these individuals will be prepared. During the late winter and spring of 1979, these individuals will be visited for purposes of observation and gathering baseline data. Particular attention will be given to a study of the graduates of the M.A. program who are in the classroom.

Beginning in the late spring and continuing through the summer of 1979, data analyses will be made and a report of the sixth year activities of the project will be prepared. It is anticipated that the report will include detailed comparisons with the results obtained in the previous years of the study. Also during the year, efforts will be made to revise and update the various questionnaires and forms used as a part of the study. It is anticipated that these revisions will result in the collection of better and more usable data.

During 1978-79 one or more special studies will be carried out that will lend extra data to the total project. It is anticipated that a detailed study will be made of the use of the observation instruments that are completed by principals and the independent observers (graduate assistants). Also, analyses of the accumulated data will be made to explore such questions as the relationship of achievement on the National Teacher Examinations to such variables as principals' ratings, scores from the Student evaluation of Teaching, and observations made by the independent observers.

Long Range Plans

Based on the high level of acceptance of the project by the University and the interest shown by other groups, the project will be integrated into the total operation of the teacher education program. At the present time, it is anticipated that the basic plans outlined in the first chapter of this report will be continued on an indefinite basis. The literature on teacher and program evaluation will be monitored and changes will be made in the basic instrumentation and methods of data collection as dictated by future attention will be given to the development of alternative methods of teacher evaluation and the development of systems for the evaluation data related to the programs of the University in such areas as public personnel services.

APPENDIX A

REPORTS AND STUDIES RELATED TO THE TEACHER PREPARATION PROGRAMS OF TENNESSEE TECHNOLOGICAL UNIVERSITY

1. Ayers, Jerry B. Report 1-Restudy. A Survey of the Graduates of the Teacher Preparation Programs of Tennessee Technological University for the Period 1965 Through 1969, Cookeville, TN: Tennessee Technological University, College of Education, 1971. (mimeo.), 49 pp.

2. Faculty of the College of Education. Report II-Restudy. Objectives of the Teacher Preparation Program, Volume I, Volume II, and Volume III. Cookeville, TN: Tennessee Technological University, College of Education, 1971. (mimeo.), 910 pp. Out of print.

3. Ayers, Jerry B. Report III-Restudy. A Report of Four Surveys of the Graduates of the Teacher Preparation Programs of Tennessee Technological University for the Period 1965 Through 1970. Cookeville, TN: Tennessee Technological University, College of Education, 1971. (mimeo.), 39 pp.

4. Ayers, Jerry B. "Predicting Quality Point Averages in Master's Degree Programs in Education," Educational and Psychological Measurement, 31:491-95, 1971.

5. Ayers, Jerry B. A Survey of Student Teachers at Tennessee Technological University. Cookeville, TN: Tennessee Technological University, College of Education, 1971. (mimeo.), 7 pp.

6. Ayers, Jerry B. Report V-Restudy. A Report of Two Surveys of the 1971 Graduates of the Teacher Preparation Programs of Tennessee Technological University. Cookeville, TN: Tennessee Technological University, College of Education, 1972. (mimeo.), 28 pp.

7. Ayers, Jerry B. and Michael E. Rohr. "Prediction of Quality Point Averages from Personality Variables," Educational and Psychological Measurement, 32:491-94, 1972.

8. Dotson, James R. and Jerry B. Ayers. "A Systematic Plan for the Restudy of a Teacher Education Program," The Tennessee Tech Journal, 7:85-89, 1972.

9. Ayers, Jerry B. and Michael E. Rohr. "The Relationship of Student Grade Expectations, Selected Characteristics, and Academic Performance for Education, Engineering, and Business Majors," Presented before the American Educational Research Association, April, 1972, Chicago, IL.

10. Brimm, Jack L. and Jerry B. Ayers. "Attitudes of Students Toward Education and Liberal Arts Courses," Presented before the Mid-South Educational Research Association Meeting, November, 1973, Memphis, TN.

11. Ayers, Jerry B. Report VI-Restudy. A Report of Three Surveys of the 1972 Graduates of the Teacher Preparation Programs of Tennessee Technological University. Cookeville, TN: Tennessee Technological University, College of Education, 1973. (mimeo.), 38 pp.

12. Ayers, Jerry B., Florinda A. Bustamante, and Philip J. Campana. "Prediction of Success in College Foreign Language Courses," Educational and Psychological Measurement, 33:939-42, 1973.

13. Rohr, Michael E. and Jerry B. Ayers. "Relationship of Student Grade Expectations, Selected Characteristics, and Academic Performance," The Journal of Experimental Education, 41:58-62, 1973.

14. Ayers, Jerry B. Report 74-1. A Report of Three Surveys of the 1973 Graduates of the Teacher Preparation Programs of Tennessee Technological University. Cookeville, TN: Tennessee Technological University, College of Education, 1974. (mimeo.), 34 pp.

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